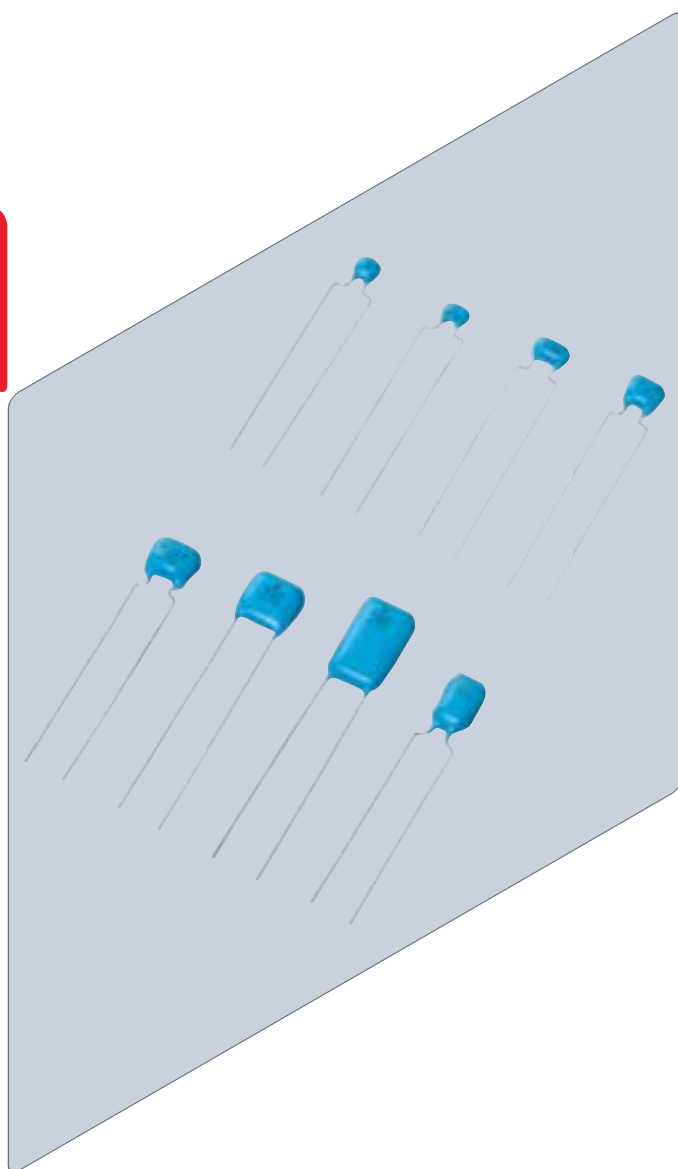


Radial Lead Type Monolithic Ceramic Capacitors





EU RoHS Compliant

- All the products in this catalog comply with EU RoHS.
- EU RoHS is "the European Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment."
- For more details, please refer to our website 'Murata's Approach for EU RoHS' (<http://www.murata.com/en-eu/support/compliance/rohs>).

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Product specifications are as of September 2016.

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Please check the MURATA website (<http://www.murata.com/>) if you cannot find a part number in this catalog.

● Part Numbering

Radial Lead Type Monolithic Ceramic Capacitors

(Part Number)

RC	E	R7	1H	104	K	0	M1	H03	A
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩

① Product ID

② Series/Terminal

Product ID	Series/Terminal	
RC	E	Radial Lead Type Monolithic Ceramic Capacitors 125°C max. (for Automotive) (DC25V-DC1kV)
RH	E	Radial Lead Type Monolithic Ceramic Capacitors 150°C max. (for Automotive) (DC25V-DC100V)
RD	E	Radial Lead Type Monolithic Ceramic Capacitors (Only for General Use) (DC25V-DC1kV)

③ Temperature Characteristics

Code	Temperature Characteristics	Reference Temperature	Temperature Range	Capacitance Change or Temperature Coefficient	Operating Temperature Range
5C	C0G	25°C	25 to 125°C	0±30ppm/°C	-55 to 125°C
			-55 to 25°C	0+30/-72ppm/°C	
5G	X8G	25°C	25 to 150°C	0±30ppm/°C	-55 to 150°C
			-55 to 25°C	0+30/-72ppm/°C	
7U	U2J	25°C	25 to 125°C	-750±120ppm/°C	-55 to 125°C
			-55 to 25°C	-750+120/-347ppm/°C	
C7	X7S	25°C	-55 to 125°C	±22%	-55 to 125°C
D7	X7T	25°C	-55 to 125°C	+22, -33%	-55 to 125°C
L8	X8L	25°C	-55 to 125°C	±15%	-55 to 150°C
			125 to 150°C	+15, -40%	
R7	X7R	25°C	-55 to 125°C	±15%	-55 to 125°C

④ Rated Voltage

Code	Rated Voltage
1E	DC25V
1H	DC50V
2A	DC100V
2E	DC250V
2W	DC450V
2H	DC500V
2J	DC630V
3A	DC1kV

⑤ Capacitance Tolerance

Code	Capacitance Tolerance	Temperature Characteristics	Capacitance Step
C	±0.25pF	C0G/X8G	≤5pF: 1pF Step
D	±0.5pF		6 to 9pF: 1pF Step
J	±5%		≥10: E12 Series
K	±10%	X7S/X7T/ X7R/X8L	E6 Series
M	±20%	X7S/X7T/ X7R/X8L	E3 Series

⑥ Capacitance

Expressed by three figures. The unit is pico-farad (pF). The first and second figures are significant digits, and the third figure expresses the number of zeros that follow the two numbers. If there is a decimal point, it is expressed by the capital letter "R." In this case, all figures are significant digits.

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⑦ Dimensions (LxW)

Code	Dimensions (LxW)
0	3.6×3.5mm or 4.0×3.5mm or 5.0×3.5mm (Depends on Part Number)
1	4.0×3.5mm or 4.5×3.5mm or 5.0×3.5mm (Depends on Part Number)
2	5.5×4.0mm
3	5.5×5.0mm
4	7.5×5.5mm
5	7.5×7.5mm or 7.5×8.0mm (Depends on Part Number)
U	7.7×12.5mm or 7.7×13.0mm (Depends on Part Number)
W	5.5×7.5mm

⑧ Lead Style

Code	Lead Style	Lead Spacing
A2	Straight Long	2.5mm
B1	Straight Long	5.0mm
DB	Straight Taping	2.5mm
E1	Straight Taping	5.0mm
K1	Inside Crimp	5.0mm
M1	Inside Crimp Taping	5.0mm
P1	Outside Crimp	2.5mm
S1	Outside Crimp Taping	2.5mm

Lead distance between reference and bottom planes.

M1, S1, DB : Ho = 16.0±0.5mm

E1 : H = 17.5±0.5mm

⑨ Individual Specification Code

Expressed by three figures

⑩ Packaging

Code	Packaging
A	Ammo Pack
B	Bulk

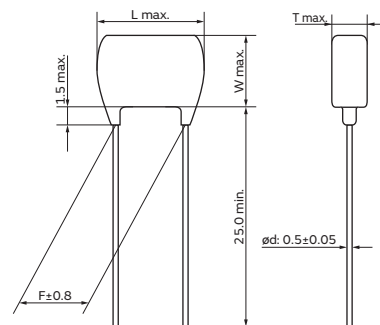
Radial Lead Type Monolithic Ceramic Capacitors

RCE Series 125°C max. (for Automotive) (DC25V-DC1kV)

Features

1. Small size and large capacitance
2. Low ESR and ESL suitable for high frequency
3. Meet AEC-Q200, ISO7637-2 (surge test) requirement
4. Meet LF (Lead Free) and HF (Halogen Free)
5. Flow soldering and welding are available.
(Re-flow soldering is not available.)
6. If copper wire is necessary at welding process, copper wire is available based on request.

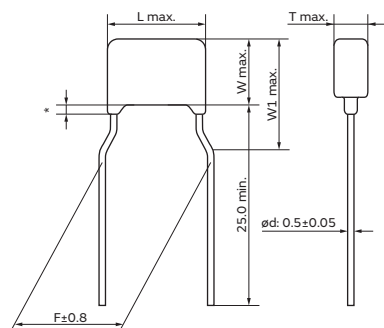
Dimensions code: 0
Lead style code: A2



• Lead Wire: Solder Coated CP Wire

(in mm)

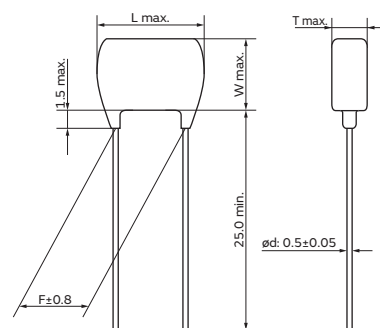
Dimensions code: 0
Lead style code: K1



* Coating extension does not exceed the end of the lead bend.
• Lead Wire: Solder Coated CP Wire

(in mm)

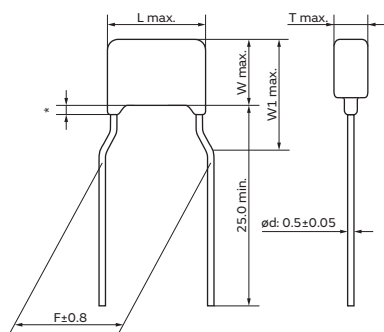
Dimensions code: 1
Lead style code: A2



• Lead Wire: Solder Coated CP Wire

(in mm)

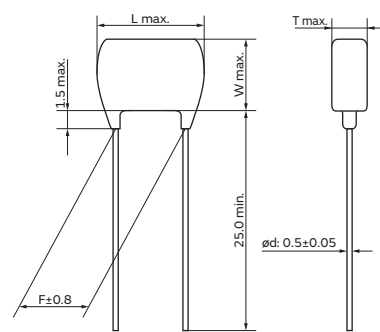
Dimensions code: 1
Lead style code: K1



* Coating extension does not exceed the end of the lead bend.
• Lead Wire: Solder Coated CP Wire

(in mm)

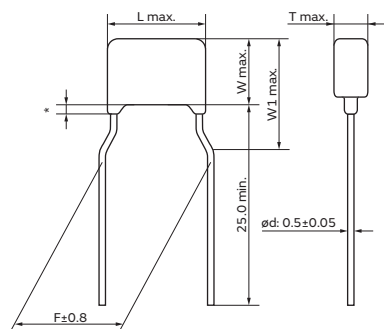
Dimensions code: 2
Lead style code: A2



• Lead Wire: Solder Coated CP Wire

(in mm)

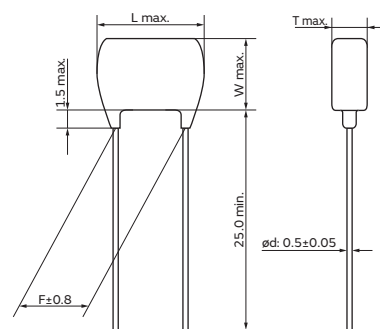
Dimensions code: 2
Lead style code: K1



* Coating extension does not exceed the end of the lead bend.
• Lead Wire: Solder Coated CP Wire

(in mm)

Dimensions code: 3
Lead style code: A2



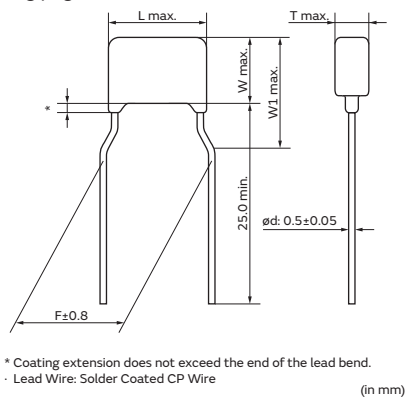
• Lead Wire: Solder Coated CP Wire

(in mm)

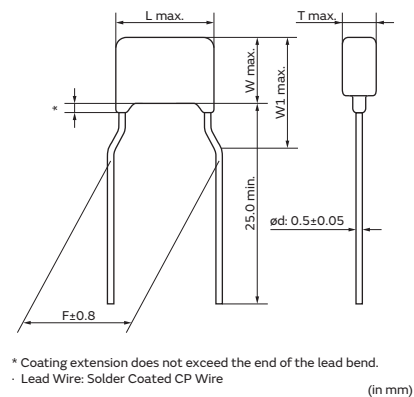
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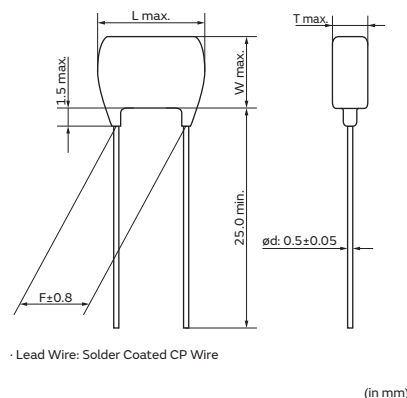
Dimensions code: 3
Lead style code: K1



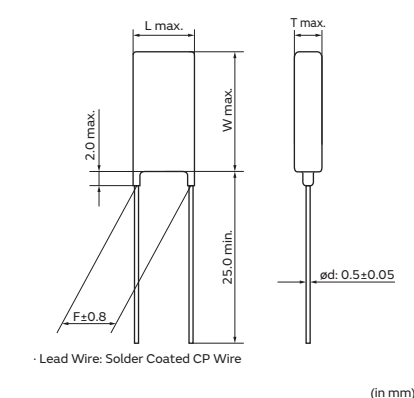
Dimensions code: 4
Lead style code: K1



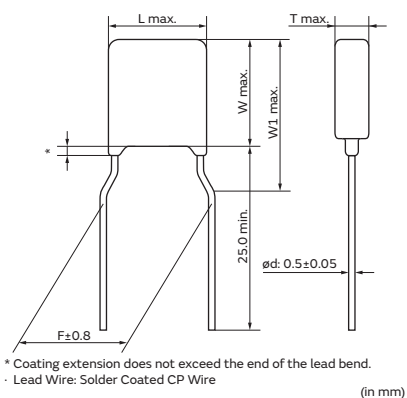
Dimensions code: 5
Lead style code: B1



Dimensions code: U
Lead style code: B1



Dimensions code: W
Lead style code: K1



Dimensions

Dimensions and Lead Style Code	Dimensions (mm)					
	L	W	W1	T	F	d
0A2/0DB	3.6	3.5	-	See the individual product specification	2.5	0.5
0K1/0M1	3.6	3.5	6.0		5.0	0.5
1A2/1DB	4.0	3.5	-		2.5	0.5
1K1/1M1	4.0	3.5	5.0		5.0	0.5
2A2/2DB	5.5	4.0	-		2.5	0.5
2K1/2M1	5.5	4.0	6.0		5.0	0.5
3A2/3DB	5.5	5.0	-		2.5	0.5
3K1/3M1	5.5	5.0	7.5		5.0	0.5
4K1/4M1	7.5	5.5	8.0		5.0	0.5
5B1/5E1	7.5	7.5*	-		5.0	0.5
UB1/UE1	7.7	12.5*	-		5.0	0.5
WK1/WM1	5.5	7.5	10.0		5.0	0.5

*DC630V, DC1kV: W+0.5mm

Marking

Dimensions Code	Rated Voltage	DC25V	DC50V				DC100V			DC250V	DC630V	DC1kV
	Temp. Char.	X7R	C0G	X7S	X7R	C0G	X7S	X7R	X7R, U2J, C0G			
0				-			-		-	-	-	
1		224K	A 102J	105K	224K	A 102J	-	224K	U 102J (U2J)	-	-	
									102K (X7R)			
2		M475 K2C	M563 J5A	M475 K5C	M105 K5C	M103 J1A	-	M105 K1C	M103 J4U (U2J)	M472 J7U (U2J)	M102 JAU (U2J)	
									M473 K4C (X7R)	M153 K7C (X7R)	M102 KAC (X7R)	
									M153 J4A (C0G)	M332 J7A (C0G)	M102 JAA (C0G)	
3, 4, W		M226 K2C	-	M106 K5C	M335 K5C	-	M225 K1C	-	M473 J4U (U2J)	M103 J7U (U2J)	M472 JAU (U2J)	
									M224 K4C (X7R)	M104 K7C (X7R)	M333 KAC (X7R)	
5, U		-	-	-	-	-	-	-	-	M333 J7U (U2J)	M103 JAU (U2J)	
									M474 K4C (X7R)	M474 M7C (X7R)	M104 KAC (X7R)	
Temperature Characteristics		Marked with code (C0G char.: A, X7S/X7R char.: C, U2J char.: U) A part is omitted (Please refer to the marking example.)										
Nominal Capacitance		Under 100pF: Actual value 100pF and over: Marked with 3 figures										
Capacitance Tolerance		Marked with code A part is omitted (Please refer to the marking example.)										
Rated Voltage		Marked with code (DC25V: 2, DC50V: 5, DC100V: 1, DC250V: 4, DC630V: 7, DC1kV: A) A part is omitted (Please refer to the marking example.)										
Manufacturer's Identification		Marked with M A part is omitted (Please refer to the marking example.)										

Temperature Compensating Type, C0G/U2J Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C1H1R0C0□□H03□	C0G (EIA)	50Vdc	1.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H1R0C0□□H03□	C0G (EIA)	50Vdc	1.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H2R0C0□□H03□	C0G (EIA)	50Vdc	2.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H2R0C0□□H03□	C0G (EIA)	50Vdc	2.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H3R0C0□□H03□	C0G (EIA)	50Vdc	3.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H3R0C0□□H03□	C0G (EIA)	50Vdc	3.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H4R0C0□□H03□	C0G (EIA)	50Vdc	4.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H4R0C0□□H03□	C0G (EIA)	50Vdc	4.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H5R0C0□□H03□	C0G (EIA)	50Vdc	5.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H5R0C0□□H03□	C0G (EIA)	50Vdc	5.0pF±5%	3.6×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C1H6R0D0□□H03□	COG (EIA)	50Vdc	6.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H6R0D0□□H03□	COG (EIA)	50Vdc	6.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H7R0D0□□H03□	COG (EIA)	50Vdc	7.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H7R0D0□□H03□	COG (EIA)	50Vdc	7.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H8R0D0□□H03□	COG (EIA)	50Vdc	8.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H8R0D0□□H03□	COG (EIA)	50Vdc	8.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H9R0D0□□H03□	COG (EIA)	50Vdc	9.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H9R0D0□□H03□	COG (EIA)	50Vdc	9.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H100J0□□H03□	COG (EIA)	50Vdc	10pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H100J0□□H03□	COG (EIA)	50Vdc	10pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H120J0□□H03□	COG (EIA)	50Vdc	12pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H120J0□□H03□	COG (EIA)	50Vdc	12pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H150J0□□H03□	COG (EIA)	50Vdc	15pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H150J0□□H03□	COG (EIA)	50Vdc	15pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H180J0□□H03□	COG (EIA)	50Vdc	18pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H180J0□□H03□	COG (EIA)	50Vdc	18pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H220J0□□H03□	COG (EIA)	50Vdc	22pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H220J0□□H03□	COG (EIA)	50Vdc	22pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H270J0□□H03□	COG (EIA)	50Vdc	27pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H270J0□□H03□	COG (EIA)	50Vdc	27pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H330J0□□H03□	COG (EIA)	50Vdc	33pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H330J0□□H03□	COG (EIA)	50Vdc	33pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H390J0□□H03□	COG (EIA)	50Vdc	39pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H390J0□□H03□	COG (EIA)	50Vdc	39pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H470J0□□H03□	COG (EIA)	50Vdc	47pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H470J0□□H03□	COG (EIA)	50Vdc	47pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H560J0□□H03□	COG (EIA)	50Vdc	56pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H560J0□□H03□	COG (EIA)	50Vdc	56pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H680J0□□H03□	COG (EIA)	50Vdc	68pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H680J0□□H03□	COG (EIA)	50Vdc	68pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H820J0□□H03□	COG (EIA)	50Vdc	82pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H820J0□□H03□	COG (EIA)	50Vdc	82pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H101J0□□H03□	COG (EIA)	50Vdc	100pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H101J0□□H03□	COG (EIA)	50Vdc	100pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H121J0□□H03□	COG (EIA)	50Vdc	120pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H121J0□□H03□	COG (EIA)	50Vdc	120pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H151J0□□H03□	COG (EIA)	50Vdc	150pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H151J0□□H03□	COG (EIA)	50Vdc	150pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H181J0□□H03□	COG (EIA)	50Vdc	180pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H181J0□□H03□	COG (EIA)	50Vdc	180pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H221J0□□H03□	COG (EIA)	50Vdc	220pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H221J0□□H03□	COG (EIA)	50Vdc	220pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H271J0□□H03□	COG (EIA)	50Vdc	270pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H271J0□□H03□	COG (EIA)	50Vdc	270pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H331J0□□H03□	COG (EIA)	50Vdc	330pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H331J0□□H03□	COG (EIA)	50Vdc	330pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H391J0□□H03□	COG (EIA)	50Vdc	390pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H391J0□□H03□	COG (EIA)	50Vdc	390pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H471J0□□H03□	COG (EIA)	50Vdc	470pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H471J0□□H03□	COG (EIA)	50Vdc	470pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H561J0□□H03□	COG (EIA)	50Vdc	560pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H561J0□□H03□	COG (EIA)	50Vdc	560pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H681J0□□H03□	COG (EIA)	50Vdc	680pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H681J0□□H03□	COG (EIA)	50Vdc	680pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H821J0□□H03□	COG (EIA)	50Vdc	820pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H821J0□□H03□	COG (EIA)	50Vdc	820pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H102J0□□H03□	COG (EIA)	50Vdc	1000pF±5%	3.6×3.5	2.5	2.5	A2	DB

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C1H102J0□□H03□	COG (EIA)	50Vdc	1000pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H122J0□□H03□	COG (EIA)	50Vdc	1200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H122J0□□H03□	COG (EIA)	50Vdc	1200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H152J0□□H03□	COG (EIA)	50Vdc	1500pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H152J0□□H03□	COG (EIA)	50Vdc	1500pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H182J0□□H03□	COG (EIA)	50Vdc	1800pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H182J0□□H03□	COG (EIA)	50Vdc	1800pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H222J0□□H03□	COG (EIA)	50Vdc	2200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H222J0□□H03□	COG (EIA)	50Vdc	2200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H272J0□□H03□	COG (EIA)	50Vdc	2700pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H272J0□□H03□	COG (EIA)	50Vdc	2700pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H332J0□□H03□	COG (EIA)	50Vdc	3300pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H332J0□□H03□	COG (EIA)	50Vdc	3300pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H392J0□□H03□	COG (EIA)	50Vdc	3900pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C1H392J0□□H03□	COG (EIA)	50Vdc	3900pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C1H472J1□□H03□	COG (EIA)	50Vdc	4700pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H472J1□□H03□	COG (EIA)	50Vdc	4700pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H562J1□□H03□	COG (EIA)	50Vdc	5600pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H562J1□□H03□	COG (EIA)	50Vdc	5600pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H682J1□□H03□	COG (EIA)	50Vdc	6800pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H682J1□□H03□	COG (EIA)	50Vdc	6800pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H822J1□□H03□	COG (EIA)	50Vdc	8200pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H822J1□□H03□	COG (EIA)	50Vdc	8200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H103J1□□H03□	COG (EIA)	50Vdc	10000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H103J1□□H03□	COG (EIA)	50Vdc	10000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H123J1□□H03□	COG (EIA)	50Vdc	12000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H123J1□□H03□	COG (EIA)	50Vdc	12000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H153J1□□H03□	COG (EIA)	50Vdc	15000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H153J1□□H03□	COG (EIA)	50Vdc	15000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H183J1□□H03□	COG (EIA)	50Vdc	18000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H183J1□□H03□	COG (EIA)	50Vdc	18000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H223J1□□H03□	COG (EIA)	50Vdc	22000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C1H223J1□□H03□	COG (EIA)	50Vdc	22000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C1H273J2□□H03□	COG (EIA)	50Vdc	27000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C1H273J2□□H03□	COG (EIA)	50Vdc	27000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C1H333J2□□H03□	COG (EIA)	50Vdc	33000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C1H333J2□□H03□	COG (EIA)	50Vdc	33000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C1H393J2□□H03□	COG (EIA)	50Vdc	39000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C1H393J2□□H03□	COG (EIA)	50Vdc	39000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C1H473J2□□H03□	COG (EIA)	50Vdc	47000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C1H473J2□□H03□	COG (EIA)	50Vdc	47000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C1H563J2□□H03□	COG (EIA)	50Vdc	56000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C1H563J2□□H03□	COG (EIA)	50Vdc	56000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A1R0C0□□H03□	COG (EIA)	100Vdc	1.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A1R0C0□□H03□	COG (EIA)	100Vdc	1.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A2R0C0□□H03□	COG (EIA)	100Vdc	2.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A2R0C0□□H03□	COG (EIA)	100Vdc	2.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A3R0C0□□H03□	COG (EIA)	100Vdc	3.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A3R0C0□□H03□	COG (EIA)	100Vdc	3.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A4R0C0□□H03□	COG (EIA)	100Vdc	4.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A4R0C0□□H03□	COG (EIA)	100Vdc	4.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A5R0C0□□H03□	COG (EIA)	100Vdc	5.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A5R0C0□□H03□	COG (EIA)	100Vdc	5.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A6R0D0□□H03□	COG (EIA)	100Vdc	6.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A6R0D0□□H03□	COG (EIA)	100Vdc	6.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A7R0D0□□H03□	COG (EIA)	100Vdc	7.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A7R0D0□□H03□	COG (EIA)	100Vdc	7.0pF±5%	3.6×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C2A8R0D0□□H03□	COG (EIA)	100Vdc	8.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A8R0D0□□H03□	COG (EIA)	100Vdc	8.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A9R0D0□□H03□	COG (EIA)	100Vdc	9.0pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A9R0D0□□H03□	COG (EIA)	100Vdc	9.0pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A100J0□□H03□	COG (EIA)	100Vdc	10pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A100J0□□H03□	COG (EIA)	100Vdc	10pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A120J0□□H03□	COG (EIA)	100Vdc	12pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A120J0□□H03□	COG (EIA)	100Vdc	12pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A150J0□□H03□	COG (EIA)	100Vdc	15pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A150J0□□H03□	COG (EIA)	100Vdc	15pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A180J0□□H03□	COG (EIA)	100Vdc	18pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A180J0□□H03□	COG (EIA)	100Vdc	18pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A220J0□□H03□	COG (EIA)	100Vdc	22pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A220J0□□H03□	COG (EIA)	100Vdc	22pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A270J0□□H03□	COG (EIA)	100Vdc	27pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A270J0□□H03□	COG (EIA)	100Vdc	27pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A330J0□□H03□	COG (EIA)	100Vdc	33pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A330J0□□H03□	COG (EIA)	100Vdc	33pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A390J0□□H03□	COG (EIA)	100Vdc	39pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A390J0□□H03□	COG (EIA)	100Vdc	39pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A470J0□□H03□	COG (EIA)	100Vdc	47pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A470J0□□H03□	COG (EIA)	100Vdc	47pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A560J0□□H03□	COG (EIA)	100Vdc	56pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A560J0□□H03□	COG (EIA)	100Vdc	56pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A680J0□□H03□	COG (EIA)	100Vdc	68pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A680J0□□H03□	COG (EIA)	100Vdc	68pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A820J0□□H03□	COG (EIA)	100Vdc	82pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A820J0□□H03□	COG (EIA)	100Vdc	82pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A101J0□□H03□	COG (EIA)	100Vdc	100pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A101J0□□H03□	COG (EIA)	100Vdc	100pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A121J0□□H03□	COG (EIA)	100Vdc	120pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A121J0□□H03□	COG (EIA)	100Vdc	120pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A151J0□□H03□	COG (EIA)	100Vdc	150pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A151J0□□H03□	COG (EIA)	100Vdc	150pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A181J0□□H03□	COG (EIA)	100Vdc	180pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A181J0□□H03□	COG (EIA)	100Vdc	180pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A221J0□□H03□	COG (EIA)	100Vdc	220pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A221J0□□H03□	COG (EIA)	100Vdc	220pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A271J0□□H03□	COG (EIA)	100Vdc	270pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A271J0□□H03□	COG (EIA)	100Vdc	270pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A331J0□□H03□	COG (EIA)	100Vdc	330pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A331J0□□H03□	COG (EIA)	100Vdc	330pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A391J0□□H03□	COG (EIA)	100Vdc	390pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A391J0□□H03□	COG (EIA)	100Vdc	390pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A471J0□□H03□	COG (EIA)	100Vdc	470pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A471J0□□H03□	COG (EIA)	100Vdc	470pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A561J0□□H03□	COG (EIA)	100Vdc	560pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A561J0□□H03□	COG (EIA)	100Vdc	560pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A681J0□□H03□	COG (EIA)	100Vdc	680pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A681J0□□H03□	COG (EIA)	100Vdc	680pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A821J0□□H03□	COG (EIA)	100Vdc	820pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A821J0□□H03□	COG (EIA)	100Vdc	820pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A102J0□□H03□	COG (EIA)	100Vdc	1000pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A102J0□□H03□	COG (EIA)	100Vdc	1000pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A122J0□□H03□	COG (EIA)	100Vdc	1200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RCE5C2A122J0□□H03□	COG (EIA)	100Vdc	1200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A152J0□□H03□	COG (EIA)	100Vdc	1500pF±5%	3.6×3.5	2.5	2.5	A2	DB

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C2A152J0□□H03□	COG (EIA)	100Vdc	1500pF±5%	3.6×3.5	2.5	5.0	K1	M1
RCE5C2A182J1□□H03□	COG (EIA)	100Vdc	1800pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C2A182J1□□H03□	COG (EIA)	100Vdc	1800pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C2A222J1□□H03□	COG (EIA)	100Vdc	2200pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C2A222J1□□H03□	COG (EIA)	100Vdc	2200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C2A272J1□□H03□	COG (EIA)	100Vdc	2700pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C2A272J1□□H03□	COG (EIA)	100Vdc	2700pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C2A332J1□□H03□	COG (EIA)	100Vdc	3300pF±5%	4.0×3.5	2.5	2.5	A2	DB
RCE5C2A332J1□□H03□	COG (EIA)	100Vdc	3300pF±5%	4.0×3.5	2.5	5.0	K1	M1
RCE5C2A392J2□□H03□	COG (EIA)	100Vdc	3900pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A392J2□□H03□	COG (EIA)	100Vdc	3900pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A472J2□□H03□	COG (EIA)	100Vdc	4700pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A472J2□□H03□	COG (EIA)	100Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A562J2□□H03□	COG (EIA)	100Vdc	5600pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A562J2□□H03□	COG (EIA)	100Vdc	5600pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A682J2□□H03□	COG (EIA)	100Vdc	6800pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A682J2□□H03□	COG (EIA)	100Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A822J2□□H03□	COG (EIA)	100Vdc	8200pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A822J2□□H03□	COG (EIA)	100Vdc	8200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2A103J2□□H03□	COG (EIA)	100Vdc	10000pF±5%	5.5×4.0	3.15	2.5	A2	DB
RCE5C2A103J2□□H03□	COG (EIA)	100Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E100J2□□H03□	COG (EIA)	250Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E120J2□□H03□	COG (EIA)	250Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E150J2□□H03□	COG (EIA)	250Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E180J2□□H03□	COG (EIA)	250Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E220J2□□H03□	COG (EIA)	250Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E270J2□□H03□	COG (EIA)	250Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E330J2□□H03□	COG (EIA)	250Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E390J2□□H03□	COG (EIA)	250Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E470J2□□H03□	COG (EIA)	250Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E560J2□□H03□	COG (EIA)	250Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E680J2□□H03□	COG (EIA)	250Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E820J2□□H03□	COG (EIA)	250Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E101J2□□H03□	COG (EIA)	250Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E121J2□□H03□	COG (EIA)	250Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E151J2□□H03□	COG (EIA)	250Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E181J2□□H03□	COG (EIA)	250Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E221J2□□H03□	COG (EIA)	250Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E271J2□□H03□	COG (EIA)	250Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E331J2□□H03□	COG (EIA)	250Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E391J2□□H03□	COG (EIA)	250Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E471J2□□H03□	COG (EIA)	250Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E561J2□□H03□	COG (EIA)	250Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E681J2□□H03□	COG (EIA)	250Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E821J2□□H03□	COG (EIA)	250Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E102J2□□H03□	COG (EIA)	250Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E122J2□□H03□	COG (EIA)	250Vdc	1200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E152J2□□H03□	COG (EIA)	250Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E182J2□□H03□	COG (EIA)	250Vdc	1800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E222J2□□H03□	COG (EIA)	250Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E272J2□□H03□	COG (EIA)	250Vdc	2700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E332J2□□H03□	COG (EIA)	250Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E392J2□□H03□	COG (EIA)	250Vdc	3900pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E472J2□□H03□	COG (EIA)	250Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E562J2□□H03□	COG (EIA)	250Vdc	5600pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E682J2□□H03□	COG (EIA)	250Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E822J2□□H03□	COG (EIA)	250Vdc	8200pF±5%	5.5×4.0	3.15	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C2E103J2□□H03□	COG (EIA)	250Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E123J2□□H03□	COG (EIA)	250Vdc	12000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2E153J2□□H03□	COG (EIA)	250Vdc	15000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J100J2□□H03□	COG (EIA)	630Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J120J2□□H03□	COG (EIA)	630Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J150J2□□H03□	COG (EIA)	630Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J180J2□□H03□	COG (EIA)	630Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J220J2□□H03□	COG (EIA)	630Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J270J2□□H03□	COG (EIA)	630Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J330J2□□H03□	COG (EIA)	630Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J390J2□□H03□	COG (EIA)	630Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J470J2□□H03□	COG (EIA)	630Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J560J2□□H03□	COG (EIA)	630Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J680J2□□H03□	COG (EIA)	630Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J820J2□□H03□	COG (EIA)	630Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J101J2□□H03□	COG (EIA)	630Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J121J2□□H03□	COG (EIA)	630Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J151J2□□H03□	COG (EIA)	630Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J181J2□□H03□	COG (EIA)	630Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J221J2□□H03□	COG (EIA)	630Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J271J2□□H03□	COG (EIA)	630Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J331J2□□H03□	COG (EIA)	630Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J391J2□□H03□	COG (EIA)	630Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J471J2□□H03□	COG (EIA)	630Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J561J2□□H03□	COG (EIA)	630Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J681J2□□H03□	COG (EIA)	630Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J821J2□□H03□	COG (EIA)	630Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J102J2□□H03□	COG (EIA)	630Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J122J2□□H03□	COG (EIA)	630Vdc	1200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J152J2□□H03□	COG (EIA)	630Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J182J2□□H03□	COG (EIA)	630Vdc	1800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J222J2□□H03□	COG (EIA)	630Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J272J2□□H03□	COG (EIA)	630Vdc	2700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C2J332J2□□H03□	COG (EIA)	630Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A100J2□□H03□	COG (EIA)	1000Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A120J2□□H03□	COG (EIA)	1000Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A150J2□□H03□	COG (EIA)	1000Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A180J2□□H03□	COG (EIA)	1000Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A220J2□□H03□	COG (EIA)	1000Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A270J2□□H03□	COG (EIA)	1000Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A330J2□□H03□	COG (EIA)	1000Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A390J2□□H03□	COG (EIA)	1000Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A470J2□□H03□	COG (EIA)	1000Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A560J2□□H03□	COG (EIA)	1000Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A680J2□□H03□	COG (EIA)	1000Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A820J2□□H03□	COG (EIA)	1000Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A101J2□□H03□	COG (EIA)	1000Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A121J2□□H03□	COG (EIA)	1000Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A151J2□□H03□	COG (EIA)	1000Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A181J2□□H03□	COG (EIA)	1000Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A221J2□□H03□	COG (EIA)	1000Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A271J2□□H03□	COG (EIA)	1000Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A331J2□□H03□	COG (EIA)	1000Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A391J2□□H03□	COG (EIA)	1000Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A471J2□□H03□	COG (EIA)	1000Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A561J2□□H03□	COG (EIA)	1000Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A681J2□□H03□	COG (EIA)	1000Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCE5C3A821J2□□H03□	C0G (EIA)	1000Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE5C3A102J2□□H03□	C0G (EIA)	1000Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2E101J1□□H03□	U2J (EIA)	250Vdc	100pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E151J1□□H03□	U2J (EIA)	250Vdc	150pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E221J1□□H03□	U2J (EIA)	250Vdc	220pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E331J1□□H03□	U2J (EIA)	250Vdc	330pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E471J1□□H03□	U2J (EIA)	250Vdc	470pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E681J1□□H03□	U2J (EIA)	250Vdc	680pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E102J1□□H03□	U2J (EIA)	250Vdc	1000pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E152J1□□H03□	U2J (EIA)	250Vdc	1500pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E222J1□□H03□	U2J (EIA)	250Vdc	2200pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E332J1□□H03□	U2J (EIA)	250Vdc	3300pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E472J1□□H03□	U2J (EIA)	250Vdc	4700pF±5%	4.0×3.5	3.15	5.0	K1	M1
RCE7U2E682J2□□H03□	U2J (EIA)	250Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2E103J2□□H03□	U2J (EIA)	250Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J100J2□□H03□	U2J (EIA)	630Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J150J2□□H03□	U2J (EIA)	630Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J220J2□□H03□	U2J (EIA)	630Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J330J2□□H03□	U2J (EIA)	630Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J470J2□□H03□	U2J (EIA)	630Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J680J2□□H03□	U2J (EIA)	630Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J101J2□□H03□	U2J (EIA)	630Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J151J2□□H03□	U2J (EIA)	630Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J221J2□□H03□	U2J (EIA)	630Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J331J2□□H03□	U2J (EIA)	630Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J471J2□□H03□	U2J (EIA)	630Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J681J2□□H03□	U2J (EIA)	630Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J102J2□□H03□	U2J (EIA)	630Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J152J2□□H03□	U2J (EIA)	630Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J222J2□□H03□	U2J (EIA)	630Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J332J2□□H03□	U2J (EIA)	630Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J472J2□□H03□	U2J (EIA)	630Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U2J682J3□□H03□	U2J (EIA)	630Vdc	6800pF±5%	5.5×5.0	4.0	5.0	K1	M1
RCE7U2J103J3□□H03□	U2J (EIA)	630Vdc	10000pF±5%	5.5×5.0	4.0	5.0	K1	M1
RCE7U2J153J4□□H03□	U2J (EIA)	630Vdc	15000pF±5%	7.5×5.5	4.0	5.0	K1	M1
RCE7U2J223J4□□H03□	U2J (EIA)	630Vdc	22000pF±5%	7.5×5.5	4.0	5.0	K1	M1
RCE7U2J333J5□□H03□	U2J (EIA)	630Vdc	33000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RCE7U2J473J5□□H03□	U2J (EIA)	630Vdc	47000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RCE7U2J943JU□□H03□	U2J (EIA)	630Vdc	94000pF±5%	7.7×13.0	4.0	5.0	B1	E1
RCE7U3A100J2□□H03□	U2J (EIA)	1000Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A150J2□□H03□	U2J (EIA)	1000Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A220J2□□H03□	U2J (EIA)	1000Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A330J2□□H03□	U2J (EIA)	1000Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A470J2□□H03□	U2J (EIA)	1000Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A680J2□□H03□	U2J (EIA)	1000Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A101J2□□H03□	U2J (EIA)	1000Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A151J2□□H03□	U2J (EIA)	1000Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A221J2□□H03□	U2J (EIA)	1000Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A331J2□□H03□	U2J (EIA)	1000Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A471J2□□H03□	U2J (EIA)	1000Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A681J2□□H03□	U2J (EIA)	1000Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A102J2□□H03□	U2J (EIA)	1000Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RCE7U3A152J3□□H03□	U2J (EIA)	1000Vdc	1500pF±5%	5.5×5.0	4.0	5.0	K1	M1
RCE7U3A222J3□□H03□	U2J (EIA)	1000Vdc	2200pF±5%	5.5×5.0	4.0	5.0	K1	M1
RCE7U3A332J4□□H03□	U2J (EIA)	1000Vdc	3300pF±5%	7.5×5.5	4.0	5.0	K1	M1
RCE7U3A472J4□□H03□	U2J (EIA)	1000Vdc	4700pF±5%	7.5×5.5	4.0	5.0	K1	M1
RCE7U3A682J5□□H03□	U2J (EIA)	1000Vdc	6800pF±5%	7.5×8.0	4.0	5.0	B1	E1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCER7U3A103J5□□H03□	U2J (EIA)	1000Vdc	10000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RCER7U3A203JU□□H03□	U2J (EIA)	1000Vdc	20000pF±5%	7.7×13.0	4.0	5.0	B1	E1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.
The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

High Dielectric Constant Type, X7R/X7S Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCER71E104K0□□H03□	X7R (EIA)	25Vdc	0.1μF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71E104K0□□H03□	X7R (EIA)	25Vdc	0.1μF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71E154K0□□H03□	X7R (EIA)	25Vdc	0.15μF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71E154K0□□H03□	X7R (EIA)	25Vdc	0.15μF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71E224K0□□H03□	X7R (EIA)	25Vdc	0.22μF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71E224K0□□H03□	X7R (EIA)	25Vdc	0.22μF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71E334K1□□H03□	X7R (EIA)	25Vdc	0.33μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71E334K1□□H03□	X7R (EIA)	25Vdc	0.33μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71E474K1□□H03□	X7R (EIA)	25Vdc	0.47μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71E474K1□□H03□	X7R (EIA)	25Vdc	0.47μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71E684K1□□H03□	X7R (EIA)	25Vdc	0.68μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71E684K1□□H03□	X7R (EIA)	25Vdc	0.68μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71E105K1□□H03□	X7R (EIA)	25Vdc	1.0μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71E105K1□□H03□	X7R (EIA)	25Vdc	1.0μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71E155K2□□H03□	X7R (EIA)	25Vdc	1.5μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71E155K2□□H03□	X7R (EIA)	25Vdc	1.5μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71E225K2□□H03□	X7R (EIA)	25Vdc	2.2μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71E225K2□□H03□	X7R (EIA)	25Vdc	2.2μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71E335K2□□H03□	X7R (EIA)	25Vdc	3.3μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71E335K2□□H03□	X7R (EIA)	25Vdc	3.3μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71E475K2□□H03□	X7R (EIA)	25Vdc	4.7μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71E475K2□□H03□	X7R (EIA)	25Vdc	4.7μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71E106K3□□H03□	X7R (EIA)	25Vdc	10μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCER71E106K3□□H03□	X7R (EIA)	25Vdc	10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER71E226MW□□H03□	X7R (EIA)	25Vdc	22μF±20%	5.5×7.5	4.0	5.0	K1	M1
RCER71H221K0□□H03□	X7R (EIA)	50Vdc	220pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H221K0□□H03□	X7R (EIA)	50Vdc	220pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H331K0□□H03□	X7R (EIA)	50Vdc	330pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H331K0□□H03□	X7R (EIA)	50Vdc	330pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H471K0□□H03□	X7R (EIA)	50Vdc	470pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H471K0□□H03□	X7R (EIA)	50Vdc	470pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H681K0□□H03□	X7R (EIA)	50Vdc	680pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H681K0□□H03□	X7R (EIA)	50Vdc	680pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H102K0□□H03□	X7R (EIA)	50Vdc	1000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H102K0□□H03□	X7R (EIA)	50Vdc	1000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H152K0□□H03□	X7R (EIA)	50Vdc	1500pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H152K0□□H03□	X7R (EIA)	50Vdc	1500pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H222K0□□H03□	X7R (EIA)	50Vdc	2200pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H222K0□□H03□	X7R (EIA)	50Vdc	2200pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H332K0□□H03□	X7R (EIA)	50Vdc	3300pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H332K0□□H03□	X7R (EIA)	50Vdc	3300pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H472K0□□H03□	X7R (EIA)	50Vdc	4700pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H472K0□□H03□	X7R (EIA)	50Vdc	4700pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H682K0□□H03□	X7R (EIA)	50Vdc	6800pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H682K0□□H03□	X7R (EIA)	50Vdc	6800pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H103K0□□H03□	X7R (EIA)	50Vdc	10000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H103K0□□H03□	X7R (EIA)	50Vdc	10000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H153K0□□H03□	X7R (EIA)	50Vdc	15000pF±10%	3.6×3.5	2.5	2.5	A2	DB

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCER71H153K0□□H03□	X7R (EIA)	50Vdc	15000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H223K0□□H03□	X7R (EIA)	50Vdc	22000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H223K0□□H03□	X7R (EIA)	50Vdc	22000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H333K0□□H03□	X7R (EIA)	50Vdc	33000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H333K0□□H03□	X7R (EIA)	50Vdc	33000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H473K0□□H03□	X7R (EIA)	50Vdc	47000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H473K0□□H03□	X7R (EIA)	50Vdc	47000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H683K0□□H03□	X7R (EIA)	50Vdc	68000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H683K0□□H03□	X7R (EIA)	50Vdc	68000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H104K0□□H03□	X7R (EIA)	50Vdc	0.10μF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER71H104K0□□H03□	X7R (EIA)	50Vdc	0.10μF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER71H154K1□□H03□	X7R (EIA)	50Vdc	0.15μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71H154K1□□H03□	X7R (EIA)	50Vdc	0.15μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71H224K1□□H03□	X7R (EIA)	50Vdc	0.22μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71H224K1□□H03□	X7R (EIA)	50Vdc	0.22μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71H334K1□□H03□	X7R (EIA)	50Vdc	0.33μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71H334K1□□H03□	X7R (EIA)	50Vdc	0.33μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71H474K1□□H03□	X7R (EIA)	50Vdc	0.47μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER71H474K1□□H03□	X7R (EIA)	50Vdc	0.47μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71H684K2□□H03□	X7R (EIA)	50Vdc	0.68μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71H684K2□□H03□	X7R (EIA)	50Vdc	0.68μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCEC71H105K1□□H03□	X7S (EIA)	50Vdc	1.0μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCEC71H105K1□□H03□	X7S (EIA)	50Vdc	1.0μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER71H105K2□□H03□	X7R (EIA)	50Vdc	1.0μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71H105K2□□H03□	X7R (EIA)	50Vdc	1.0μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71H155K2□□H03□	X7R (EIA)	50Vdc	1.5μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71H155K2□□H03□	X7R (EIA)	50Vdc	1.5μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71H225K2□□H03□	X7R (EIA)	50Vdc	2.2μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER71H225K2□□H03□	X7R (EIA)	50Vdc	2.2μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71H335K3□□H03□	X7R (EIA)	50Vdc	3.3μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCER71H335K3□□H03□	X7R (EIA)	50Vdc	3.3μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCEC71H475K2□□H03□	X7S (EIA)	50Vdc	4.7μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCEC71H475K2□□H03□	X7S (EIA)	50Vdc	4.7μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER71H475K3□□H03□	X7R (EIA)	50Vdc	4.7μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCER71H475K3□□H03□	X7R (EIA)	50Vdc	4.7μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCEC71H106K3□□H03□	X7S (EIA)	50Vdc	10μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCEC71H106K3□□H03□	X7S (EIA)	50Vdc	10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER71H106MW□□H03□	X7R (EIA)	50Vdc	10μF±20%	5.5×7.5	4.0	5.0	K1	M1
RCEC71H226MW□□H03□	X7S (EIA)	50Vdc	22μF±20%	5.5×7.5	4.0	5.0	K1	M1
RCER72A221K0□□H03□	X7R (EIA)	100Vdc	220pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A221K0□□H03□	X7R (EIA)	100Vdc	220pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A331K0□□H03□	X7R (EIA)	100Vdc	330pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A331K0□□H03□	X7R (EIA)	100Vdc	330pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A471K0□□H03□	X7R (EIA)	100Vdc	470pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A471K0□□H03□	X7R (EIA)	100Vdc	470pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A681K0□□H03□	X7R (EIA)	100Vdc	680pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A681K0□□H03□	X7R (EIA)	100Vdc	680pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A102K0□□H03□	X7R (EIA)	100Vdc	1000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A102K0□□H03□	X7R (EIA)	100Vdc	1000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A152K0□□H03□	X7R (EIA)	100Vdc	1500pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A152K0□□H03□	X7R (EIA)	100Vdc	1500pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A222K0□□H03□	X7R (EIA)	100Vdc	2200pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A222K0□□H03□	X7R (EIA)	100Vdc	2200pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A332K0□□H03□	X7R (EIA)	100Vdc	3300pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A332K0□□H03□	X7R (EIA)	100Vdc	3300pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A472K0□□H03□	X7R (EIA)	100Vdc	4700pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A472K0□□H03□	X7R (EIA)	100Vdc	4700pF±10%	3.6×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCER72A682K0□□H03□	X7R (EIA)	100Vdc	6800pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A682K0□□H03□	X7R (EIA)	100Vdc	6800pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A103K0□□H03□	X7R (EIA)	100Vdc	10000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A103K0□□H03□	X7R (EIA)	100Vdc	10000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A153K0□□H03□	X7R (EIA)	100Vdc	15000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A153K0□□H03□	X7R (EIA)	100Vdc	15000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A223K0□□H03□	X7R (EIA)	100Vdc	22000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RCER72A223K0□□H03□	X7R (EIA)	100Vdc	22000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RCER72A333K1□□H03□	X7R (EIA)	100Vdc	33000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER72A333K1□□H03□	X7R (EIA)	100Vdc	33000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER72A473K1□□H03□	X7R (EIA)	100Vdc	47000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER72A473K1□□H03□	X7R (EIA)	100Vdc	47000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER72A683K1□□H03□	X7R (EIA)	100Vdc	68000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER72A683K1□□H03□	X7R (EIA)	100Vdc	68000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER72A104K1□□H03□	X7R (EIA)	100Vdc	0.10μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER72A104K1□□H03□	X7R (EIA)	100Vdc	0.10μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER72A154K2□□H03□	X7R (EIA)	100Vdc	0.15μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER72A154K2□□H03□	X7R (EIA)	100Vdc	0.15μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72A224K2□□H03□	X7R (EIA)	100Vdc	0.22μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER72A224K2□□H03□	X7R (EIA)	100Vdc	0.22μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72A334K1□□H03□	X7R (EIA)	100Vdc	0.33μF±10%	4.0×3.5	2.5	2.5	A2	DB
RCER72A334K1□□H03□	X7R (EIA)	100Vdc	0.33μF±10%	4.0×3.5	2.5	5.0	K1	M1
RCER72A474K2□□H03□	X7R (EIA)	100Vdc	0.47μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER72A474K2□□H03□	X7R (EIA)	100Vdc	0.47μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72A684K2□□H03□	X7R (EIA)	100Vdc	0.68μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER72A684K2□□H03□	X7R (EIA)	100Vdc	0.68μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72A105K2□□H03□	X7R (EIA)	100Vdc	1.0μF±10%	5.5×4.0	3.15	2.5	A2	DB
RCER72A105K2□□H03□	X7R (EIA)	100Vdc	1.0μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCEC72A155K3□□H03□	X7S (EIA)	100Vdc	1.5μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCEC72A155K3□□H03□	X7S (EIA)	100Vdc	1.5μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCEC72A225K3□□H03□	X7S (EIA)	100Vdc	2.2μF±10%	5.5×5.0	4.0	2.5	A2	DB
RCEC72A225K3□□H03□	X7S (EIA)	100Vdc	2.2μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCEC72A475MW□□H03□	X7S (EIA)	100Vdc	4.7μF±20%	5.5×7.5	4.0	5.0	K1	M1
RCER72E102K1□□H03□	X7R (EIA)	250Vdc	1000pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E152K1□□H03□	X7R (EIA)	250Vdc	1500pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E222K1□□H03□	X7R (EIA)	250Vdc	2200pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E332K1□□H03□	X7R (EIA)	250Vdc	3300pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E472K1□□H03□	X7R (EIA)	250Vdc	4700pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E682K1□□H03□	X7R (EIA)	250Vdc	6800pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E103K1□□H03□	X7R (EIA)	250Vdc	10000pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E153K1□□H03□	X7R (EIA)	250Vdc	15000pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E223K1□□H03□	X7R (EIA)	250Vdc	22000pF±10%	4.0×3.5	3.15	5.0	K1	M1
RCER72E333K2□□H03□	X7R (EIA)	250Vdc	33000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72E473K2□□H03□	X7R (EIA)	250Vdc	47000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72E683K2□□H03□	X7R (EIA)	250Vdc	68000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72E104K2□□H03□	X7R (EIA)	250Vdc	0.10μF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72E154K3□□H03□	X7R (EIA)	250Vdc	0.15μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER72E224K3□□H03□	X7R (EIA)	250Vdc	0.22μF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER72E334K4□□H03□	X7R (EIA)	250Vdc	0.33μF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER72E474K4□□H03□	X7R (EIA)	250Vdc	0.47μF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER72E684K5□□H03□	X7R (EIA)	250Vdc	0.68μF±10%	7.5×7.5	4.0	5.0	B1	E1
RCER72E105K5□□H03□	X7R (EIA)	250Vdc	1.0μF±10%	7.5×7.5	4.0	5.0	B1	E1
RCER72E225MU□□H03□	X7R (EIA)	250Vdc	2.2μF±20%	7.5×12.5	4.0	5.0	B1	E1
RCER72J102K2□□H03□	X7R (EIA)	630Vdc	1000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J152K2□□H03□	X7R (EIA)	630Vdc	1500pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J222K2□□H03□	X7R (EIA)	630Vdc	2200pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J332K2□□H03□	X7R (EIA)	630Vdc	3300pF±10%	5.5×4.0	3.15	5.0	K1	M1

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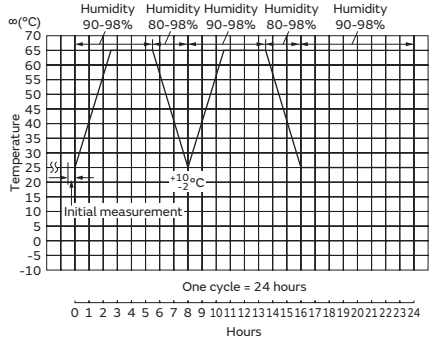
Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RCER72J472K2□□H03□	X7R (EIA)	630Vdc	4700pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J682K2□□H03□	X7R (EIA)	630Vdc	6800pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J103K2□□H03□	X7R (EIA)	630Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J153K2□□H03□	X7R (EIA)	630Vdc	15000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J223K2□□H03□	X7R (EIA)	630Vdc	22000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER72J333K3□□H03□	X7R (EIA)	630Vdc	33000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER72J473K3□□H03□	X7R (EIA)	630Vdc	47000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER72J683K4□□H03□	X7R (EIA)	630Vdc	68000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER72J104K4□□H03□	X7R (EIA)	630Vdc	0.10μF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER72J154K5□□H03□	X7R (EIA)	630Vdc	0.15μF±10%	7.5×8.0	4.0	5.0	B1	E1
RCER72J224K5□□H03□	X7R (EIA)	630Vdc	0.22μF±10%	7.5×8.0	4.0	5.0	B1	E1
RCER72J474MU□□H03□	X7R (EIA)	630Vdc	0.47μF±20%	7.7×13.0	4.0	5.0	B1	E1
RCER73A102K2□□H03□	X7R (EIA)	1000Vdc	1000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A152K2□□H03□	X7R (EIA)	1000Vdc	1500pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A222K2□□H03□	X7R (EIA)	1000Vdc	2200pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A332K2□□H03□	X7R (EIA)	1000Vdc	3300pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A472K2□□H03□	X7R (EIA)	1000Vdc	4700pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A682K2□□H03□	X7R (EIA)	1000Vdc	6800pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A103K2□□H03□	X7R (EIA)	1000Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RCER73A153K3□□H03□	X7R (EIA)	1000Vdc	15000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER73A223K3□□H03□	X7R (EIA)	1000Vdc	22000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RCER73A333K4□□H03□	X7R (EIA)	1000Vdc	33000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER73A473K4□□H03□	X7R (EIA)	1000Vdc	47000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RCER73A683K5□□H03□	X7R (EIA)	1000Vdc	68000pF±10%	7.5×8.0	4.0	5.0	B1	E1
RCER73A104K5□□H03□	X7R (EIA)	1000Vdc	0.10μF±10%	7.5×8.0	4.0	5.0	B1	E1
RCER73A224MU□□H03□	X7R (EIA)	1000Vdc	0.22μF±20%	7.7×13.0	4.0	5.0	B1	E1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.

The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

Temperature Compensating Type Specifications and Test Methods

1

No.	AEC-Q200 Test Item	Specifications	AEC-Q200 Test Method															
1	Pre-and Post-Stress Electrical Test	-																
2	High Temperature Exposure (Storage)	The measured and observed characteristics should satisfy the specifications in the following table.	Sit the capacitor for 1,000±12hrs. at 150±3°C. Let sit for 24±2hrs. at *room condition, then measure.															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±3% or ±0.3pF (Whichever is larger)																
	Q	30pF ≤ C: Q ≥ 350 10pF ≤ C < 30pF: Q ≥ 275+5C/2 10pF > C: Q ≥ 200+10C C: Nominal Capacitance (pF)																
	I.R.	More than 1,000MΩ or 50MΩ • μF (Whichever is smaller)																
3	Temperature Cycling	The measured and observed characteristics should satisfy the specifications in the following table.	Perform the 1,000 cycles according to the four heat treatments listed in the following table. Let sit for 24±2hrs. at *room condition, then measure. <table><tr><th>Step</th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>Temp. (°C)</td><td>-55+0/-3</td><td>Room Temp.</td><td>125+3/-0</td><td>Room Temp.</td></tr><tr><td>Time (min.)</td><td>15±3</td><td>1</td><td>15±3</td><td>1</td></tr></table>	Step	1	2	3	4	Temp. (°C)	-55+0/-3	Room Temp.	125+3/-0	Room Temp.	Time (min.)	15±3	1	15±3	1
	Step	1		2	3	4												
	Temp. (°C)	-55+0/-3		Room Temp.	125+3/-0	Room Temp.												
	Time (min.)	15±3		1	15±3	1												
	Appearance	No defects or abnormalities																
Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)																	
Q	30pF ≤ C: Q ≥ 350 10pF ≤ C < 30pF: Q ≥ 275+5C/2 10pF > C: Q ≥ 200+10C C: Nominal Capacitance (pF)																	
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)																	
4	Moisture Resistance	The measured and observed characteristics should satisfy the specifications in the following table.	Apply the 24hrs. heat (25 to 65°C) and humidity (80 to 98%) treatment shown below, 10 consecutive times. Let sit for 24±2hrs. at *room condition, then measure. 															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)																
	Q	30pF ≤ C: Q ≥ 200 30pF > C: Q ≥ 100+10C/3 C: Nominal Capacitance (pF)																
	I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																
5	Biased Humidity	The measured and observed characteristics should satisfy the specifications in the following table.	Apply the rated voltage and DC1.3+0.2/-0V (add 100kΩ resistor) at 85±3°C and 80 to 85% humidity for 1,000±12hrs. Remove and let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA.															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)																
	Q	30pF ≤ C: Q ≥ 200 30pF > C: Q ≥ 100+10C/3 C: Nominal Capacitance (pF)																
	I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																
6	Operational Life	The measured and observed characteristics should satisfy the specifications in the following table.	Apply the voltage shown in the table for 1,000±12hrs. at 125±3°C. Let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA. <table><tr><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td>DC50V, DC100V</td><td>200% of the rated voltage</td></tr><tr><td>DC250V</td><td>150% of the rated voltage</td></tr><tr><td>DC630V, DC1kV</td><td>120% of the rated voltage</td></tr></table>	Rated Voltage	Test Voltage	DC50V, DC100V	200% of the rated voltage	DC250V	150% of the rated voltage	DC630V, DC1kV	120% of the rated voltage							
	Rated Voltage	Test Voltage																
	DC50V, DC100V	200% of the rated voltage																
	DC250V	150% of the rated voltage																
	DC630V, DC1kV	120% of the rated voltage																
Appearance	No defects or abnormalities																	
Capacitance Change	Within ±3% or ±0.3pF (Whichever is larger)																	
Q	30pF ≤ C: Q ≥ 350 10pF ≤ C < 30pF: Q ≥ 275+5C/2 10pF > C: Q ≥ 200+10C C: Nominal Capacitance (pF)																	
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)																	

* "room condition" Temperature: 15 to 35°C , Relative humidity: 45 to 75% , Atmosphere pressure: 86 to 106kPa

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Temperature Compensating Type Specifications and Test Methods

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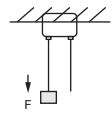
No.	AEC-Q200 Test Item	Specifications	AEC-Q200 Test Method
7	External Visual	No defects or abnormalities	Visual inspection
8	Physical Dimension	Within the specified dimensions	Using calipers and micrometers.
9	Marking	To be easily legible.	Visual inspection
10	Resistance to Solvents	Appearance	Per MIL-STD-202 Method 215 Solvent 1: 1 part (by volume) of isopropyl alcohol 3 parts (by volume) of mineral spirits Solvent 2: Terpene defluxer Solvent 3: 42 parts (by volume) of water 1 part (by volume) of propylene glycol monomethyl ether 1 part (by volume) of monoethanolamine
		Capacitance	
		Q	
		I.R.	
11	Mechanical Shock	Appearance	Three shocks in each direction should be applied along 3 mutually perpendicular axes of the test specimen (18 shocks). The specified test pulse should be Half-sine and should have a duration: 0.5ms, peak value: 1,500G and velocity change: 4.7m/s.
		Capacitance	
		Q	
		I.R.	
12	Vibration	Appearance	The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 2,000Hz. The frequency range, from 10 to 2,000Hz and return to 10Hz, should be traversed in approximately 20min. This motion should be applied for 12 items in each 3 mutually perpendicular directions (total of 36 times).
		Capacitance	
		Q	
		I.R.	
13 , 1	Resistance to Soldering Heat (Non-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.	The lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 10±1sec. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.
		Appearance	
		Capacitance Change	
		Dielectric Strength (Between Terminals)	
13 , 2	Resistance to Soldering Heat (On-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.	First the capacitor should be stored at 120+0/-5°C for 60+0/-5 sec. Then, the lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.
		Appearance	
		Capacitance Change	
		Dielectric Strength (Between Terminals)	
13 , 3	Resistance to Soldering Heat (soldering iron method)	The measured and observed characteristics should satisfy the specifications in the following table.	Test condition Temperature of iron-tip: 350±10°C Soldering time: 3.5±0.5sec. Soldering position Straight Lead: 1.5 to 2.0mm from the root of terminal. Crimp Lead: 1.5 to 2.0mm from the end of lead bend. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.
		Appearance	
		Capacitance Change	
		Dielectric Strength (Between Terminals)	
14	Thermal Shock	The measured and observed characteristics should satisfy the specifications in the following table.	Perform the 300 cycles according to the two heat treatments listed in the following table (Maximum transfer time is 20sec.). Let sit for 24±2hrs. at *room condition, then measure.
		Appearance	
		Capacitance Change	
		Q	
		I.R.	

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ↗

Temperature Compensating Type Specifications and Test Methods

Continued from the preceding page. ↘

No.	AEC-Q200 Test Item		Specifications		AEC-Q200 Test Method									
15	ESD	Appearance	No defects or abnormalities		Per AEC-Q200-002									
		Capacitance	Within the specified tolerance											
		Q	30pF ≤ C: Q ≥ 1,000 30pF > C: Q ≥ 400+20C C: Nominal Capacitance (pF)											
		I.R.	More than 10,000MΩ or 500MΩ • μF (Whichever is smaller)											
16	Solderability		Lead wire should be soldered with uniform coating on the axial direction over 95% of the circumferential direction.		Should be placed into steam aging for 8hrs.±15min. The terminal of capacitor is dipped into a solution of ethanol (JIS K 8101) and rosin (JIS K 5902) (25% rosin in weight propotion). Immerse in solder solution for 2±0.5 sec. In both cases the depth of dipping is up to about 1.5 to 2mm from the terminal body.									
17	Electrical Charac- terization	Appearance	No defects or abnormalities		Visual inspection.									
		Capacitance	Within the specified tolerance		The capacitance, Q should be measured at 25°C at the frequency and voltage shown in the table.									
		Q	30pF ≤ C: Q ≥ 1,000 30pF > C: Q ≥ 400+20C C: Nominal Capacitance (pF)		<table><tr><th>Nominal Cap.</th><th>Frequency</th><th>Voltage</th></tr><tr><td>C ≤ 1000pF</td><td>1±0.1MHz</td><td>AC0.5 to 5V (r.m.s.)</td></tr><tr><td>C > 1000pF</td><td>1±0.1kHz</td><td>AC1±0.2V (r.m.s.)</td></tr></table>	Nominal Cap.	Frequency	Voltage	C ≤ 1000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)	C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)
		Nominal Cap.	Frequency	Voltage										
		C ≤ 1000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)										
		C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)										
I.R.	Between Terminals	10,000MΩ or 500MΩ • μF min. (Whichever is smaller)	The insulation resistance should be measured with a DC voltage shown in the table at 25°C within 2min. of charging.											
Dielectric Strength	Between Terminals	No defects or abnormalities	The capacitor should not be damaged when DC voltage shown in the table is applied between the terminations for 1 to 5 sec. (Charge/Discharge current ≤ 50mA.)											
	Body Insulation	No defects or abnormalities	The capacitor is placed in a container with metal balls of 1mm diameter so that each terminal, short-circuit is kept approximately 2mm from the balls, and DC voltage shown in the table is impressed for 1 to 5 sec. between capacitor terminals and metal balls. (Charge/Discharge current ≤ 50mA.)											
18	Terminal Strength	Tensile Strength	Termination not to be broken or loosened		As in the figure, fix the capacitor body, apply the force gradually to each lead in the radial direction of the capacitor until reaching 10N and then keep the force applied for 10±1 sec. 									
		Bending Strength	Termination not to be broken or loosened		Each lead wire should be subjected to a force of 2.5N and then be bent 90° at the point of egress in one direction. Each wire is then returned to the original position and bent 90° in the opposite direction at the rate of one bend per 2 to 3 sec.									

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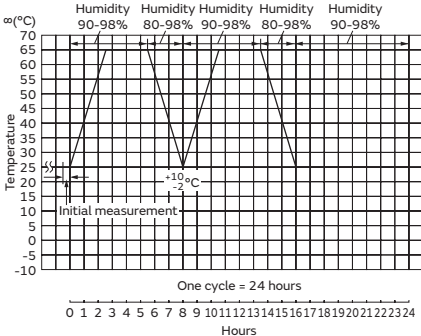
Temperature Compensating Type Specifications and Test Methods

Continued from the preceding page. ↘

No.	AEC-Q200 Test Item	Specifications	AEC-Q200 Test Method												
19	Capacitance Temperature Characteristics		The capacitance change should be measured after 5min. at each specified temperature step.												
			<table><tr><th>Step</th><th>Temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>125±3</td></tr><tr><td>5</td><td>25±2</td></tr></table>	Step	Temperature (°C)	1	25±2	2	-55±3	3	25±2	4	125±3	5	25±2
		Step	Temperature (°C)												
		1	25±2												
2	-55±3														
3	25±2														
4	125±3														
5	25±2														
	<table><tr><th>Char.</th><th>Temperature Coefficient</th></tr><tr><td>C0G</td><td>25 to 125°C: 0±30ppm/°C -55 to 25°C: 0+30/-72ppm/°C</td></tr><tr><td>U2J</td><td>25 to 125°C: -750±120ppm/°C -55 to 25°C: -750+120/-347ppm/°C</td></tr></table>	Char.	Temperature Coefficient	C0G	25 to 125°C: 0±30ppm/°C -55 to 25°C: 0+30/-72ppm/°C	U2J	25 to 125°C: -750±120ppm/°C -55 to 25°C: -750+120/-347ppm/°C	The temperature coefficient is determined using the capacitance measured in step 3 as a reference. When cycling the temperature sequentially from step 1 through 5 (-55°C to +125°C) the capacitance should be within the specified tolerance for the temperature coefficient. The capacitance drift is calculated by dividing the differences between the maximum and minimum measured values in the step 1, 3 and 5 by the capacitance value in step 3.							
Char.	Temperature Coefficient														
C0G	25 to 125°C: 0±30ppm/°C -55 to 25°C: 0+30/-72ppm/°C														
U2J	25 to 125°C: -750±120ppm/°C -55 to 25°C: -750+120/-347ppm/°C														

High Dielectric Constant Type Specifications and Test Methods

1

No.	AEC-Q200 Test Item	Specifications	AEC-Q200 Test Method															
1	Pre-and Post-Stress Electrical Test	-																
2	High Temperature Exposure (Storage)	The measured and observed characteristics should satisfy the specifications in the following table.	Sit the capacitor for 1,000±12hrs. at 150±3°C. Let sit for 24±2hrs. at *room condition, then measure. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition.															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±12.5%																
	D.F.	0.04 max.																
	I.R.	More than 1,000MΩ or 50MΩ • μF (Whichever is smaller)																
3	Temperature Cycling	The measured and observed characteristics should satisfy the specifications in the following table.	Perform the 1,000 cycles according to the four heat treatments listed in the following table. Let sit for 24±2hrs. at *room condition, then measure. <table><tr><th>Step</th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>Temp. (°C)</td><td>-55+0/-3</td><td>Room Temp.</td><td>125+3/-0</td><td>Room Temp.</td></tr><tr><td>Time (min.)</td><td>15±3</td><td>1</td><td>15±3</td><td>1</td></tr></table> •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition.	Step	1	2	3	4	Temp. (°C)	-55+0/-3	Room Temp.	125+3/-0	Room Temp.	Time (min.)	15±3	1	15±3	1
	Step	1		2	3	4												
	Temp. (°C)	-55+0/-3		Room Temp.	125+3/-0	Room Temp.												
	Time (min.)	15±3		1	15±3	1												
	Appearance	No defects or abnormalities																
Capacitance Change	Within ±12.5%																	
D.F.	0.05 max.																	
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)																	
4	Moisture Resistance	The measured and observed characteristics should satisfy the specifications in the following table.	Apply the 24hrs. heat (25 to 65°C) and humidity (80 to 98%) treatment shown below, 10 consecutive times. Let sit for 24±2hrs. at *room condition, then measure. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. 															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±12.5%																
	D.F.	0.05 max.																
	I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																
5	Biased Humidity	The measured and observed characteristics should satisfy the specifications in the following table.	Apply the rated voltage and DC1.3+0.2/-0V (add 100kΩ resistor) at 85±3°C and 80 to 85% humidity for 1,000±12hrs. Remove and let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition.															
	Appearance	No defects or abnormalities																
	Capacitance Change	Within ±12.5%																
	D.F.	0.05 max.																
	I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ➤

High Dielectric Constant Type Specifications and Test Methods

Continued from the preceding page. ↘

No.	AEC-Q200 Test Item		Specifications	AEC-Q200 Test Method											
6	Operational Life		The measured and observed characteristics should satisfy the specifications in the following table.	Apply the voltage shown in the table for 1,000±12hrs. at 125±3°C. Let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA. •Pretreatment Apply test voltage for 60±5min at test temperature. Remove and let sit for 24±2hrs. at *room condition. <table><thead><tr><th>Rated Voltage</th><th>Test Voltage</th></tr></thead><tbody><tr><td>DC25V, DC50V, DC100V</td><td>200% of the rated voltage *1</td></tr><tr><td>DC250V</td><td>150% of the rated voltage</td></tr><tr><td>DC630V</td><td>120% of the rated voltage</td></tr><tr><td>DC1kV</td><td>110% of the rated voltage</td></tr></tbody></table>		Rated Voltage	Test Voltage	DC25V, DC50V, DC100V	200% of the rated voltage *1	DC250V	150% of the rated voltage	DC630V	120% of the rated voltage	DC1kV	110% of the rated voltage
	Rated Voltage	Test Voltage													
	DC25V, DC50V, DC100V	200% of the rated voltage *1													
	DC250V	150% of the rated voltage													
	DC630V	120% of the rated voltage													
DC1kV	110% of the rated voltage														
	Appearance	No defects or abnormalities													
	Capacitance Change	Within ±12.5%													
	D.F.	0.04 max.													
	I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)													
7	External Visual		No defects or abnormalities	Visual inspection											
8	Physical Dimension		Within the specified dimensions	Using calipers and micrometers.											
9	Marking		To be easily legible.	Visual inspection											
10	Resistance to Solvents	Appearance	No defects or abnormalities	Per MIL-STD-202 Method 215 Solvent 1: 1 part (by volume) of isopropyl alcohol 3 parts (by volume) of mineral spirits Solvent 2: Terpene defluxer Solvent 3: 42 parts (by volume) of water 1 part (by volume) of propylene glycol monomethyl ether 1 part (by volume) of monoethanolamine											
		Capacitance	Within the specified tolerance												
		D.F.	0.025 max.												
		I.R.	More than 10,000MΩ or 500MΩ • μF (Whichever is smaller)												
11	Mechanical Shock	Appearance	No defects or abnormalities	Three shocks in each direction should be applied along 3 mutually perpendicular axes of the test specimen (18 shocks). The specified test pulse should be Half-sine and should have a duration: 0.5ms, peak value: 1,500G and velocity change: 4.7m/s.											
		Capacitance	Within the specified tolerance												
		D.F.	0.025 max.												
12	Vibration	Appearance	No defects or abnormalities	The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 2,000Hz. The frequency range, from 10 to 2,000Hz and return to 10Hz, should be traversed in approximately 20min. This motion should be applied for 12 items in each 3 mutually perpendicular directions (total of 36 times).											
		Capacitance	Within the specified tolerance												
		D.F.	0.025 max.												
13 , 1	Resistance to Soldering Heat (Non-Preheat)		The measured and observed characteristics should satisfy the specifications in the following table.	The lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 10±1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. befor initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.											
	Appearance	No defects or abnormalities													
	Capacitance Change	Within ±7.5%													
	Dielectric Strength (Between Terminals)	No defects													
13 , 2	Resistance to Soldering Heat (On-Preheat)		The measured and observed characteristics should satisfy the specifications in the following table.	First the capacitor should be stored at 120+0/-5°C for 60+0/-5 sec. Then, the lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. befor initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.											
	Appearance	No defects or abnormalities													
	Capacitance Change	Within ±7.5%													
	Dielectric Strength (Between Terminals)	No defects													

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

*1: below parts are applicable in rated voltage×150%.

Char.	Rated Voltage	Capacitance	Dimensions
C7	1H	105	1
C7	1H	475	2
C7	1H	106	3
C7	1H	226	W
R7	2A	334	1
R7	2A	474-105	2
C7	2A	155-225	3
C7	2A	475	W

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High Dielectric Constant Type Specifications and Test Methods

Continued from the preceding page. ↘

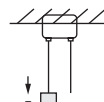
No.	AEC-Q200 Test Item		Specifications		AEC-Q200 Test Method										
13 , 3	Resistance to Soldering Heat (Soldering Iron Method)		The measured and observed characteristics should satisfy the specifications in the following table.		Test condition Temperature of iron-tip: 350±10°C Soldering time: 3.5±0.5sec. Soldering position Straight Lead: 1.5 to 2.0mm from the root of terminal. Crimp Lead: 1.5 to 2.0mm from the end of lead bend. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.										
	Appearance	No defects or abnormalities													
	Capacitance Change	Within ±7.5%													
	Dielectric Strength (Between Terminals)	No defects													
14	Thermal Shock		The measured and observed characteristics should satisfy the specifications in the following table.		Perform the 300 cycles according to the two heat treatments listed in the following table (Maximum transfer time is 20sec.). Let sit for 24±2hrs. at *room condition, then measure.										
	Appearance	No defects or abnormalities			<table><tr><th>Step</th><th>1</th><th>2</th></tr><tr><td>Temp. (°C)</td><td>-55+0/-3</td><td>125+3/-0</td></tr><tr><td>Time (min.)</td><td>15±3</td><td>15±3</td></tr></table>		Step	1	2	Temp. (°C)	-55+0/-3	125+3/-0	Time (min.)	15±3	15±3
	Step	1	2												
	Temp. (°C)	-55+0/-3	125+3/-0												
	Time (min.)	15±3	15±3												
Capacitance Change	Within ±12.5%														
D.F.	0.05 max.			•Pretreatment											
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)			Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition.											
15	ESD	Appearance	No defects or abnormalities		Per AEC-Q200-002										
		Capacitance	Within the specified tolerance												
		D.F.	0.025 max.												
		I.R.	Rated Voltage: DC25V, DC50V, DC100V More than 10,000MΩ or 500MΩ • μF (Whichever is smaller) Rated Voltage: DC250V, DC500V, DC630V, DC1kV More than 10,000MΩ or 100MΩ • μF (Whichever is smaller)												
16	Solderability		Lead wire should be soldered with uniform coating on the axial direction over 95% of the circumferential direction.		Should be placed into steam aging for 8hrs.±15min. The terminal of capacitor is dipped into a solution of ethanol (JIS K 8101) and rosin (JIS K 5902) (25% rosin in weight propotion). Immerse in solder solution for 2±0.5 sec. In both cases the depth of dipping is up to about 1.5 to 2mm from the terminal body.										
17	Electrical Charac-terization	Appearance	No defects or abnormalities		Visual inspection.										
		Capacitance	Within the specified tolerance		The capacitance/D.F. should be measured at 25°C at the frequency and voltage shown in the table.										
		D.F.	0.025 max.		<table><tr><th>Frequency</th><th>Voltage</th></tr><tr><td>1±0.1kHz</td><td>1±0.2V (r.m.s.)</td></tr></table>		Frequency	Voltage	1±0.1kHz	1±0.2V (r.m.s.)					
		Frequency	Voltage												
		1±0.1kHz	1±0.2V (r.m.s.)												
		I.R.	Between Terminals	Rated Voltage: DC25V, DC50V, DC100V More than 10,000MΩ or 500MΩ • μF (Whichever is smaller) Rated Voltage: DC250V, DC500V, DC630V, DC1kV More than 10,000MΩ or 100MΩ • μF (Whichever is smaller)	The insulation resistance should be measured with a DC voltage shown in the table at 25°C within 2min. of charging.										
					<table><tr><th>Rated Voltage</th><th>Measuring Voltage</th></tr><tr><td>DC25V, DC50V, DC100V, DC250V</td><td>Rated Voltage</td></tr><tr><td>DC630V, DC1kV</td><td>DC500V</td></tr></table>		Rated Voltage	Measuring Voltage	DC25V, DC50V, DC100V, DC250V	Rated Voltage	DC630V, DC1kV	DC500V			
		Rated Voltage	Measuring Voltage												
		DC25V, DC50V, DC100V, DC250V	Rated Voltage												
		DC630V, DC1kV	DC500V												
	Between Terminals	No defects or abnormalities	The capacitor should not be damaged when DC voltage shown in the table is applied between the terminations for 1 to 5 sec. (Charge/Discharge current ≤ 50mA.)												
			<table><tr><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td>DC25V, DC50V, DC100V</td><td>250% of the rated voltage</td></tr><tr><td>DC250V</td><td>200% of the rated voltage</td></tr><tr><td>DC630V</td><td>150% of the rated voltage</td></tr><tr><td>DC1kV</td><td>120% of the rated voltage</td></tr></table>		Rated Voltage	Test Voltage	DC25V, DC50V, DC100V	250% of the rated voltage	DC250V	200% of the rated voltage	DC630V	150% of the rated voltage	DC1kV	120% of the rated voltage	
Rated Voltage	Test Voltage														
DC25V, DC50V, DC100V	250% of the rated voltage														
DC250V	200% of the rated voltage														
DC630V	150% of the rated voltage														
DC1kV	120% of the rated voltage														
	Dielectric Strength														
	Body Insulation	No defects or abnormalities	The capacitor is placed in a container with metal balls of 1mm diameter so that each terminal, short-circuit is kept approximately 2mm from the balls, and 250% of the rated DC voltage shown in the table is impressed for 1 to 5 sec. between capacitor terminals and metal balls. (Charge/Discharge current ≤ 50mA.)												
			<table><tr><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td>DC25V, DC50V, DC100V</td><td>250% of the rated voltage</td></tr><tr><td>DC250V</td><td>200% of the rated voltage</td></tr><tr><td>DC630V, DC1kV</td><td>DC1300V</td></tr></table>		Rated Voltage	Test Voltage	DC25V, DC50V, DC100V	250% of the rated voltage	DC250V	200% of the rated voltage	DC630V, DC1kV	DC1300V			
Rated Voltage	Test Voltage														
DC25V, DC50V, DC100V	250% of the rated voltage														
DC250V	200% of the rated voltage														
DC630V, DC1kV	DC1300V														

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ↗

High Dielectric Constant Type Specifications and Test Methods

Continued from the preceding page. ↘

No.	AEC-Q200 Test Item		Specifications	AEC-Q200 Test Method												
18	Terminal Strength	Tensile Strength	Termination not to be broken or loosened	As in the figure, fix the capacitor body, apply the force gradually to each lead in the radial direction of the capacitor until reaching 10N and then keep the force applied for 10±1 sec. 												
		Bending Strength	Termination not to be broken or loosened	Each lead wire should be subjected to a force of 2.5N and then be bent 90° at the point of egress in one direction. Each wire is then returned to the original position and bent 90° in the opposite direction at the rate of one bend per 2 to 3 sec.												
19	Capacitance Temperature Characteristics		Char. X7R: Within ±15% Char. X7S: Within ±22%	The capacitance change should be measured after 5min. at each specified temperature step. <table><tr><th>Step</th><th>Temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>125±3</td></tr><tr><td>5</td><td>25±2</td></tr></table> The ranges of capacitance change compared with the above 25°C value over the temperature ranges shown in the table should be within the specified ranges. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. Perform the initial measurement.	Step	Temperature (°C)	1	25±2	2	-55±3	3	25±2	4	125±3	5	25±2
Step	Temperature (°C)															
1	25±2															
2	-55±3															
3	25±2															
4	125±3															
5	25±2															

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

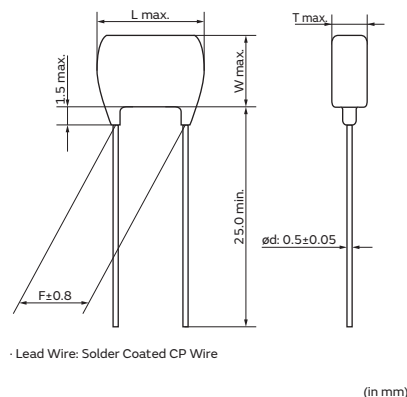
Radial Lead Type Monolithic Ceramic Capacitors

RHE Series 150°C max. (for Automotive) (DC25V-DC100V)

Features

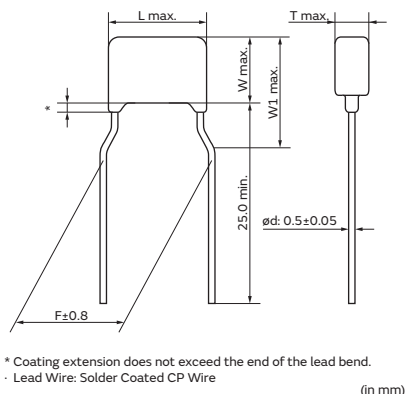
1. Small size and large capacitance
2. Low ESR and ESL suitable for high frequency
3. Applied maximum temperature up to 150°C
Note: Maximum accumulative time to 150°C is within 2000 hours.
4. Meet AEC-Q200, ISO7637-2 (surge test) requirement
5. Meet LF (Lead Free) and HF (Halogen Free)
6. Flow soldering and welding are available.
(Re-flow soldering is not available.)
7. If copper wire is necessary at welding process, copper wire is available based on request.

Dimensions code: 0
Lead style code: A2



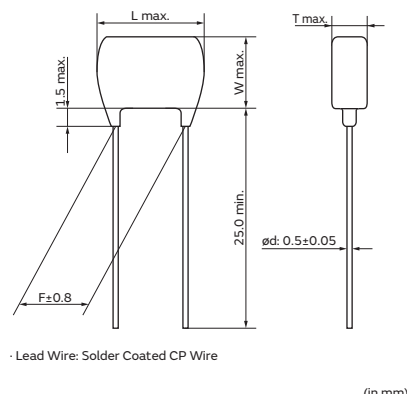
(in mm)

Dimensions code: 0
Lead style code: K1



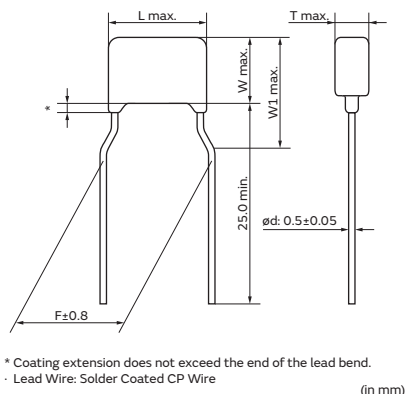
(in mm)

Dimensions code: 1
Lead style code: A2



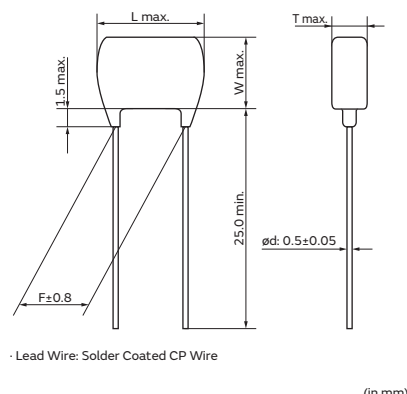
(in mm)

Dimensions code: 1
Lead style code: K1



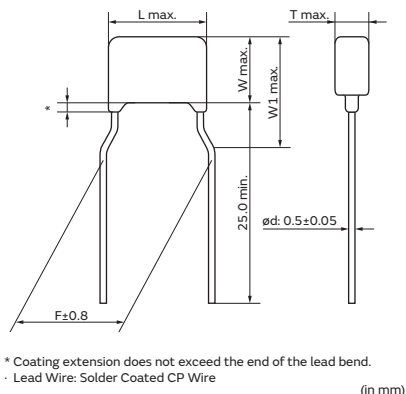
(in mm)

Dimensions code: 2
Lead style code: A2



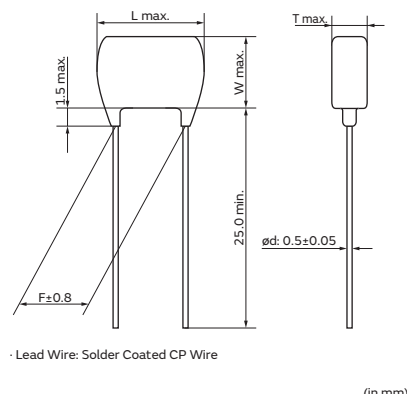
(in mm)

Dimensions code: 2
Lead style code: K1



(in mm)

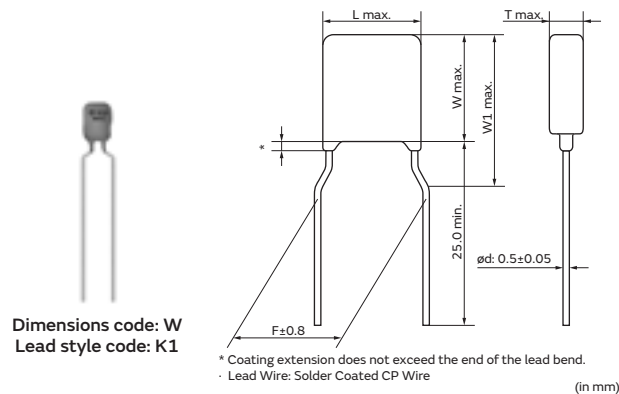
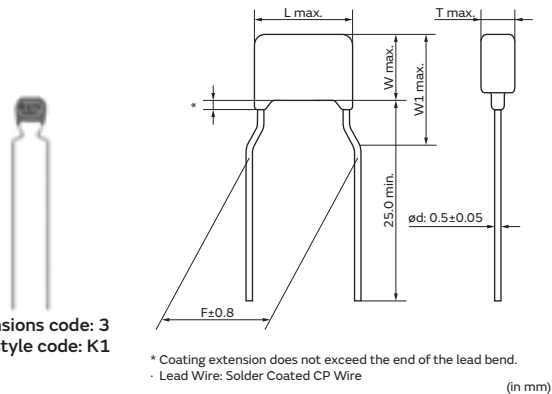
Dimensions code: 3
Lead style code: A2



(in mm)

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Dimensions

Dimensions and Lead Style Code	Dimensions (mm)					
	L	W	W1	T	F	d
0A2/0DB	3.6	3.5	-	See the individual product specification	2.5	0.5
0K1/0M1	3.6	3.5	6.0		5.0	0.5
1A2/1DB	4.0	3.5	-		2.5	0.5
1K1/1M1	4.0	3.5	5.0		5.0	0.5
2A2/2DB	5.5	4.0	-		2.5	0.5
2K1/2M1	5.5	4.0	6.0		5.0	0.5
3A2/3DB	5.5	5.0	-		2.5	0.5
3K1/3M1	5.5	5.0	7.5		5.0	0.5
WK1/WM1	5.5	7.5	10.0		5.0	0.5

Marking

Dimensions Code	Type	Temperature Compensating Type	High Dielectric Constant Type	
	Rated Voltage	DC50V, DC100V	DC25V, DC50V	DC100V
	Temp. Char.	X8G	X8L	
0		8 102J	8 104K	8 103K
1				
2		—	M 105 K58	M 224 K18
3, W		—	M 335 K58	—
Temperature Characteristics		Marked with code (X8G, X8L char.: 8)		
Nominal Capacitance		Marked with 3 figures		
Capacitance Tolerance		Marked with code		
Rated Voltage		Marked with code (DC25V: 2, DC50V: 5, DC100V: 1) A part is omitted (Please refer to the marking example.)		
Manufacturer's Identification		Marked with M A part is omitted (Please refer to the marking example.)		

Temperature Compensating Type, X8G Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RHE5G1H101J0□□H03□	X8G (Murata)	50Vdc	100pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H101J0□□H03□	X8G (Murata)	50Vdc	100pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H121J0□□H03□	X8G (Murata)	50Vdc	120pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H121J0□□H03□	X8G (Murata)	50Vdc	120pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H151J0□□H03□	X8G (Murata)	50Vdc	150pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H151J0□□H03□	X8G (Murata)	50Vdc	150pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H181J0□□H03□	X8G (Murata)	50Vdc	180pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H181J0□□H03□	X8G (Murata)	50Vdc	180pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H221J0□□H03□	X8G (Murata)	50Vdc	220pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H221J0□□H03□	X8G (Murata)	50Vdc	220pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H271J0□□H03□	X8G (Murata)	50Vdc	270pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H271J0□□H03□	X8G (Murata)	50Vdc	270pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H331J0□□H03□	X8G (Murata)	50Vdc	330pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H331J0□□H03□	X8G (Murata)	50Vdc	330pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H391J0□□H03□	X8G (Murata)	50Vdc	390pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H391J0□□H03□	X8G (Murata)	50Vdc	390pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H471J0□□H03□	X8G (Murata)	50Vdc	470pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H471J0□□H03□	X8G (Murata)	50Vdc	470pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H561J0□□H03□	X8G (Murata)	50Vdc	560pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H561J0□□H03□	X8G (Murata)	50Vdc	560pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H681J0□□H03□	X8G (Murata)	50Vdc	680pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H681J0□□H03□	X8G (Murata)	50Vdc	680pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H821J0□□H03□	X8G (Murata)	50Vdc	820pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H821J0□□H03□	X8G (Murata)	50Vdc	820pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H102J0□□H03□	X8G (Murata)	50Vdc	1000pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H102J0□□H03□	X8G (Murata)	50Vdc	1000pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H122J0□□H03□	X8G (Murata)	50Vdc	1200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H122J0□□H03□	X8G (Murata)	50Vdc	1200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H152J0□□H03□	X8G (Murata)	50Vdc	1500pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H152J0□□H03□	X8G (Murata)	50Vdc	1500pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H182J0□□H03□	X8G (Murata)	50Vdc	1800pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H182J0□□H03□	X8G (Murata)	50Vdc	1800pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H222J0□□H03□	X8G (Murata)	50Vdc	2200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H222J0□□H03□	X8G (Murata)	50Vdc	2200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H272J0□□H03□	X8G (Murata)	50Vdc	2700pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H272J0□□H03□	X8G (Murata)	50Vdc	2700pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H332J0□□H03□	X8G (Murata)	50Vdc	3300pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H332J0□□H03□	X8G (Murata)	50Vdc	3300pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H392J0□□H03□	X8G (Murata)	50Vdc	3900pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G1H392J0□□H03□	X8G (Murata)	50Vdc	3900pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G1H472J1□□H03□	X8G (Murata)	50Vdc	4700pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G1H472J1□□H03□	X8G (Murata)	50Vdc	4700pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G1H562J1□□H03□	X8G (Murata)	50Vdc	5600pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G1H562J1□□H03□	X8G (Murata)	50Vdc	5600pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G1H682J1□□H03□	X8G (Murata)	50Vdc	6800pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G1H682J1□□H03□	X8G (Murata)	50Vdc	6800pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G1H822J1□□H03□	X8G (Murata)	50Vdc	8200pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G1H822J1□□H03□	X8G (Murata)	50Vdc	8200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G1H103J1□□H03□	X8G (Murata)	50Vdc	10000pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G1H103J1□□H03□	X8G (Murata)	50Vdc	10000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G2A101J0□□H03□	X8G (Murata)	100Vdc	100pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A101J0□□H03□	X8G (Murata)	100Vdc	100pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A121J0□□H03□	X8G (Murata)	100Vdc	120pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A121J0□□H03□	X8G (Murata)	100Vdc	120pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A151J0□□H03□	X8G (Murata)	100Vdc	150pF±5%	3.6×3.5	2.5	2.5	A2	DB

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RHE5G2A151J0□□H03□	X8G (Murata)	100Vdc	150pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A181J0□□H03□	X8G (Murata)	100Vdc	180pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A181J0□□H03□	X8G (Murata)	100Vdc	180pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A221J0□□H03□	X8G (Murata)	100Vdc	220pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A221J0□□H03□	X8G (Murata)	100Vdc	220pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A271J0□□H03□	X8G (Murata)	100Vdc	270pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A271J0□□H03□	X8G (Murata)	100Vdc	270pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A331J0□□H03□	X8G (Murata)	100Vdc	330pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A331J0□□H03□	X8G (Murata)	100Vdc	330pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A391J0□□H03□	X8G (Murata)	100Vdc	390pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A391J0□□H03□	X8G (Murata)	100Vdc	390pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A471J0□□H03□	X8G (Murata)	100Vdc	470pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A471J0□□H03□	X8G (Murata)	100Vdc	470pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A561J0□□H03□	X8G (Murata)	100Vdc	560pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A561J0□□H03□	X8G (Murata)	100Vdc	560pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A681J0□□H03□	X8G (Murata)	100Vdc	680pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A681J0□□H03□	X8G (Murata)	100Vdc	680pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A821J0□□H03□	X8G (Murata)	100Vdc	820pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A821J0□□H03□	X8G (Murata)	100Vdc	820pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A102J0□□H03□	X8G (Murata)	100Vdc	1000pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A102J0□□H03□	X8G (Murata)	100Vdc	1000pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A122J0□□H03□	X8G (Murata)	100Vdc	1200pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A122J0□□H03□	X8G (Murata)	100Vdc	1200pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A152J0□□H03□	X8G (Murata)	100Vdc	1500pF±5%	3.6×3.5	2.5	2.5	A2	DB
RHE5G2A152J0□□H03□	X8G (Murata)	100Vdc	1500pF±5%	3.6×3.5	2.5	5.0	K1	M1
RHE5G2A182J1□□H03□	X8G (Murata)	100Vdc	1800pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G2A182J1□□H03□	X8G (Murata)	100Vdc	1800pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G2A222J1□□H03□	X8G (Murata)	100Vdc	2200pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G2A222J1□□H03□	X8G (Murata)	100Vdc	2200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G2A272J1□□H03□	X8G (Murata)	100Vdc	2700pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G2A272J1□□H03□	X8G (Murata)	100Vdc	2700pF±5%	4.0×3.5	2.5	5.0	K1	M1
RHE5G2A332J1□□H03□	X8G (Murata)	100Vdc	3300pF±5%	4.0×3.5	2.5	2.5	A2	DB
RHE5G2A332J1□□H03□	X8G (Murata)	100Vdc	3300pF±5%	4.0×3.5	2.5	5.0	K1	M1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.
The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

High Dielectric Constant Type, X8L Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RHEL81E104K0□□H03□	X8L (Murata)	25Vdc	0.1μF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81E104K0□□H03□	X8L (Murata)	25Vdc	0.1μF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81E154K0□□H03□	X8L (Murata)	25Vdc	0.15μF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81E154K0□□H03□	X8L (Murata)	25Vdc	0.15μF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81E224K0□□H03□	X8L (Murata)	25Vdc	0.22μF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81E224K0□□H03□	X8L (Murata)	25Vdc	0.22μF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81E334K1□□H03□	X8L (Murata)	25Vdc	0.33μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81E334K1□□H03□	X8L (Murata)	25Vdc	0.33μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81E474K1□□H03□	X8L (Murata)	25Vdc	0.47μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81E474K1□□H03□	X8L (Murata)	25Vdc	0.47μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81E684K1□□H03□	X8L (Murata)	25Vdc	0.68μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81E684K1□□H03□	X8L (Murata)	25Vdc	0.68μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81E105K1□□H03□	X8L (Murata)	25Vdc	1.0μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81E105K1□□H03□	X8L (Murata)	25Vdc	1.0μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81E155K2□□H03□	X8L (Murata)	25Vdc	1.5μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81E155K2□□H03□	X8L (Murata)	25Vdc	1.5μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81E225K2□□H03□	X8L (Murata)	25Vdc	2.2μF±10%	5.5×4.0	3.15	2.5	A2	DB

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RHEL81E225K2□□H03□	X8L (Murata)	25Vdc	2.2μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81E335K2□□H03□	X8L (Murata)	25Vdc	3.3μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81E335K2□□H03□	X8L (Murata)	25Vdc	3.3μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81E475K2□□H03□	X8L (Murata)	25Vdc	4.7μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81E475K2□□H03□	X8L (Murata)	25Vdc	4.7μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81E106K3□□H03□	X8L (Murata)	25Vdc	10μF±10%	5.5×5.0	4.0	2.5	A2	DB
RHEL81E106K3□□H03□	X8L (Murata)	25Vdc	10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RHEL81E226MW□□H03□	X8L (Murata)	25Vdc	22μF±20%	5.5×7.5	4.0	5.0	K1	M1
RHEL81H221K0□□H03□	X8L (Murata)	50Vdc	220pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H221K0□□H03□	X8L (Murata)	50Vdc	220pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H331K0□□H03□	X8L (Murata)	50Vdc	330pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H331K0□□H03□	X8L (Murata)	50Vdc	330pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H471K0□□H03□	X8L (Murata)	50Vdc	470pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H471K0□□H03□	X8L (Murata)	50Vdc	470pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H681K0□□H03□	X8L (Murata)	50Vdc	680pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H681K0□□H03□	X8L (Murata)	50Vdc	680pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H102K0□□H03□	X8L (Murata)	50Vdc	1000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H102K0□□H03□	X8L (Murata)	50Vdc	1000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H152K0□□H03□	X8L (Murata)	50Vdc	1500pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H152K0□□H03□	X8L (Murata)	50Vdc	1500pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H222K0□□H03□	X8L (Murata)	50Vdc	2200pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H222K0□□H03□	X8L (Murata)	50Vdc	2200pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H332K0□□H03□	X8L (Murata)	50Vdc	3300pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H332K0□□H03□	X8L (Murata)	50Vdc	3300pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H472K0□□H03□	X8L (Murata)	50Vdc	4700pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H472K0□□H03□	X8L (Murata)	50Vdc	4700pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H682K0□□H03□	X8L (Murata)	50Vdc	6800pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H682K0□□H03□	X8L (Murata)	50Vdc	6800pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H103K0□□H03□	X8L (Murata)	50Vdc	10000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H103K0□□H03□	X8L (Murata)	50Vdc	10000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H153K0□□H03□	X8L (Murata)	50Vdc	15000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H153K0□□H03□	X8L (Murata)	50Vdc	15000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H223K0□□H03□	X8L (Murata)	50Vdc	22000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H223K0□□H03□	X8L (Murata)	50Vdc	22000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H333K0□□H03□	X8L (Murata)	50Vdc	33000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H333K0□□H03□	X8L (Murata)	50Vdc	33000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H473K0□□H03□	X8L (Murata)	50Vdc	47000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H473K0□□H03□	X8L (Murata)	50Vdc	47000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H683K0□□H03□	X8L (Murata)	50Vdc	68000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H683K0□□H03□	X8L (Murata)	50Vdc	68000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H104K0□□H03□	X8L (Murata)	50Vdc	0.10μF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL81H104K0□□H03□	X8L (Murata)	50Vdc	0.10μF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL81H154K1□□H03□	X8L (Murata)	50Vdc	0.15μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81H154K1□□H03□	X8L (Murata)	50Vdc	0.15μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81H224K1□□H03□	X8L (Murata)	50Vdc	0.22μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81H224K1□□H03□	X8L (Murata)	50Vdc	0.22μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81H334K1□□H03□	X8L (Murata)	50Vdc	0.33μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL81H334K1□□H03□	X8L (Murata)	50Vdc	0.33μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL81H474K2□□H03□	X8L (Murata)	50Vdc	0.47μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81H474K2□□H03□	X8L (Murata)	50Vdc	0.47μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81H684K2□□H03□	X8L (Murata)	50Vdc	0.68μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81H684K2□□H03□	X8L (Murata)	50Vdc	0.68μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81H105K2□□H03□	X8L (Murata)	50Vdc	1.0μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81H105K2□□H03□	X8L (Murata)	50Vdc	1.0μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81H155K2□□H03□	X8L (Murata)	50Vdc	1.5μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL81H155K2□□H03□	X8L (Murata)	50Vdc	1.5μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81H225K2□□H03□	X8L (Murata)	50Vdc	2.2μF±10%	5.5×4.0	3.15	2.5	A2	DB

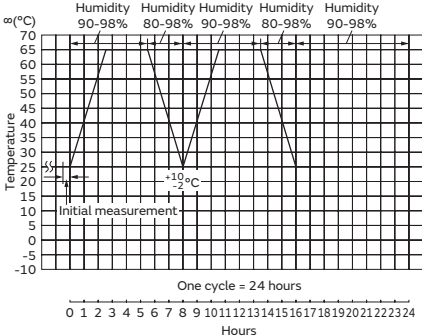
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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RHEL81H225K2□□H03□	X8L (Murata)	50Vdc	2.2μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL81H335K3□□H03□	X8L (Murata)	50Vdc	3.3μF±10%	5.5×5.0	4.0	2.5	A2	DB
RHEL81H335K3□□H03□	X8L (Murata)	50Vdc	3.3μF±10%	5.5×5.0	4.0	5.0	K1	M1
RHEL81H475K3□□H03□	X8L (Murata)	50Vdc	4.7μF±10%	5.5×5.0	4.0	2.5	A2	DB
RHEL81H475K3□□H03□	X8L (Murata)	50Vdc	4.7μF±10%	5.5×5.0	4.0	5.0	K1	M1
RHEL81H106MW□□H03□	X8L (Murata)	50Vdc	10μF±20%	5.5×7.5	4.0	5.0	K1	M1
RHEL82A221K0□□H03□	X8L (Murata)	100Vdc	220pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A221K0□□H03□	X8L (Murata)	100Vdc	220pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A331K0□□H03□	X8L (Murata)	100Vdc	330pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A331K0□□H03□	X8L (Murata)	100Vdc	330pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A471K0□□H03□	X8L (Murata)	100Vdc	470pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A471K0□□H03□	X8L (Murata)	100Vdc	470pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A681K0□□H03□	X8L (Murata)	100Vdc	680pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A681K0□□H03□	X8L (Murata)	100Vdc	680pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A102K0□□H03□	X8L (Murata)	100Vdc	1000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A102K0□□H03□	X8L (Murata)	100Vdc	1000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A152K0□□H03□	X8L (Murata)	100Vdc	1500pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A152K0□□H03□	X8L (Murata)	100Vdc	1500pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A222K0□□H03□	X8L (Murata)	100Vdc	2200pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A222K0□□H03□	X8L (Murata)	100Vdc	2200pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A332K0□□H03□	X8L (Murata)	100Vdc	3300pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A332K0□□H03□	X8L (Murata)	100Vdc	3300pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A472K0□□H03□	X8L (Murata)	100Vdc	4700pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A472K0□□H03□	X8L (Murata)	100Vdc	4700pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A682K0□□H03□	X8L (Murata)	100Vdc	6800pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A682K0□□H03□	X8L (Murata)	100Vdc	6800pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A103K0□□H03□	X8L (Murata)	100Vdc	10000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A103K0□□H03□	X8L (Murata)	100Vdc	10000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A153K0□□H03□	X8L (Murata)	100Vdc	15000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A153K0□□H03□	X8L (Murata)	100Vdc	15000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A223K0□□H03□	X8L (Murata)	100Vdc	22000pF±10%	3.6×3.5	2.5	2.5	A2	DB
RHEL82A223K0□□H03□	X8L (Murata)	100Vdc	22000pF±10%	3.6×3.5	2.5	5.0	K1	M1
RHEL82A333K1□□H03□	X8L (Murata)	100Vdc	33000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL82A333K1□□H03□	X8L (Murata)	100Vdc	33000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL82A473K1□□H03□	X8L (Murata)	100Vdc	47000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL82A473K1□□H03□	X8L (Murata)	100Vdc	47000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL82A683K1□□H03□	X8L (Murata)	100Vdc	68000pF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL82A683K1□□H03□	X8L (Murata)	100Vdc	68000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL82A104K1□□H03□	X8L (Murata)	100Vdc	0.10μF±10%	4.0×3.5	2.5	2.5	A2	DB
RHEL82A104K1□□H03□	X8L (Murata)	100Vdc	0.10μF±10%	4.0×3.5	2.5	5.0	K1	M1
RHEL82A154K2□□H03□	X8L (Murata)	100Vdc	0.15μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL82A154K2□□H03□	X8L (Murata)	100Vdc	0.15μF±10%	5.5×4.0	3.15	5.0	K1	M1
RHEL82A224K2□□H03□	X8L (Murata)	100Vdc	0.22μF±10%	5.5×4.0	3.15	2.5	A2	DB
RHEL82A224K2□□H03□	X8L (Murata)	100Vdc	0.22μF±10%	5.5×4.0	3.15	5.0	K1	M1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.
The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

Specifications and Test Methods

No.	AEC-Q200 Test Item	Specification		AEC-Q200 Test Method															
		Temperature Compensating Type (Char. X8G)	High Dielectric Constant Type (Char. X8L)																
1	Pre-and Post-Stress Electrical Test	-																	
2	High Temperature Exposure (Storage)	The measured and observed characteristics should satisfy the specifications in the following table.		Sit the capacitor for 1,000±12hrs. at 150±3°C. Let sit for 24±2hrs. at *room condition, then measure. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. (for Char. X8L)															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±3% or ±0.3pF (Whichever is larger)		Within ±12.5%														
		Q/D.F.	Q ≥ 350		0.04 max.														
		I.R.	More than 1,000MΩ or 50MΩ • μF (Whichever is smaller)																
3	Temperature Cycling	The measured and observed characteristics should satisfy the specifications in the following table.		Perform the 1,000 cycles according to the four heat treatments listed in the following table. Let sit for 24±2hrs. at *room condition, then measure. <table><tr><th>Step</th><th>1</th><th>2</th><th>3</th><th>4</th></tr><tr><td>Temp. (°C)</td><td>-55+0/-3</td><td>Room Temp.</td><td>150+3/-0</td><td>Room Temp.</td></tr><tr><td>Time (min.)</td><td>15±3</td><td>1</td><td>15±3</td><td>1</td></tr></table> •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. (for Char. X8L)	Step	1	2	3	4	Temp. (°C)	-55+0/-3	Room Temp.	150+3/-0	Room Temp.	Time (min.)	15±3	1	15±3	1
		Step	1		2	3	4												
		Temp. (°C)	-55+0/-3		Room Temp.	150+3/-0	Room Temp.												
		Time (min.)	15±3		1	15±3	1												
		Appearance	No defects or abnormalities except color change of outer coating																
Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)	Within ±12.5%																	
Q/D.F.	Q ≥ 350	0.05 max.																	
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)																		
4	Moisture Resistance	The measured and observed characteristics should satisfy the specifications in the following table.		Apply the 24hrs. heat (25 to 65°C) and humidity (80 to 98%) treatment shown below, 10 consecutive times. Let sit for 24±2hrs. at *room condition, then measure. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. (for Char. X8L) 															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)		Within ±12.5%														
		Q/D.F.	Q ≥ 200		0.05 max.														
		I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																
5	Biased Humidity	The measured and observed characteristics should satisfy the specifications in the following table.		Apply the rated voltage and DC1.3+0.2/-0V (add 100kΩ resistor) at 85±3°C and 80 to 85% humidity for 1,000±12hrs. Remove and let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5min and then let sit for 24±2hrs. at *room condition. (for Char. X8L)															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)		Within ±12.5%														
		Q/D.F.	Q ≥ 200		0.05 max.														
		I.R.	500MΩ or 25MΩ • μF min. (Whichever is smaller)																
6	Operational Life	The measured and observed characteristics should satisfy the specifications in the following table.		Apply 150% of the rated voltage for 1,000±12hrs. at 150±3°C. Let sit for 24±2hrs. at *room condition, then measure. The charge/discharge current is less than 50mA. •Pretreatment Apply test voltage for 60±5 min at test temperature. Remove and let sit for 24±2hrs. at *room condition. (for Char. X8L)															
		Appearance	No defects or abnormalities except color change of outer coating																
		Capacitance Change	Within ±3% or ±0.3pF (Whichever is larger)		Within ±12.5%														
		Q/D.F.	Q ≥ 350		0.04 max.														
		I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)																
7	External Visual	No defects or abnormalities		Visual inspection															
8	Physical Dimension	Within the specified dimensions		Using calipers and micrometers.															
9	Marking	To be easily legible.		Visual inspection															

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

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Specifications and Test Methods

Continued from the preceding page. ➤

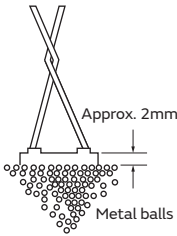
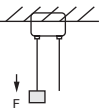
No.	AEC-Q200 Test Item		Specification		AEC-Q200 Test Method									
			Temperature Compensating Type (Char. X8G)	High Dielectric Constant Type (Char. X8L)										
10	Resistance to Solvents	Appearance	No defects or abnormalities		Per MIL-STD-202 Method 215 Solvent 1: 1 part (by volume) of isopropyl alcohol 3 parts (by volume) of mineral spirits Solvent 2: Terpene defluxer Solvent 3: 42 parts (by volume) of water 1 part (by volume) of propylene glycol monomethyl ether 1 part (by volume) of monoethanolamine									
		Capacitance	Within the specified tolerance											
		Q/D.F.	Q ≥ 1,000	0.025 max.										
		I.R.	More than 10,000MΩ or 500MΩ • μF (Whichever is smaller)											
11	Mechanical Shock	Appearance	No defects or abnormalities		Three shocks in each direction should be applied along 3 mutually perpendicular axes of the test specimen (18 shocks). The specified test pulse should be Half-sine and should have a duration: 0.5ms, peak value: 1,500G and velocity change: 4.7m/s.									
		Capacitance	Within the specified tolerance											
		Q/D.F.	Q ≥ 1,000	0.025 max.										
12	Vibration	Appearance	No defects or abnormalities		The capacitor should be subjected to a simple harmonic motion having a total amplitude of 1.5mm, the frequency being varied uniformly between the approximate limits of 10 and 2,000Hz. The frequency range, from 10 to 2,000Hz and return to 10Hz, should be traversed in approximately 20min. This motion should be applied for 12 items in each 3 mutually perpendicular directions (total of 36 times).									
		Capacitance	Within the specified tolerance											
		Q/D.F.	Q ≥ 1,000	0.025 max.										
13 , 1	Resistance to Soldering Heat (Non-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		The lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 10±1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X8L) Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.										
		Appearance	No defects or abnormalities											
		Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)		Within ±7.5%									
		Dielectric Strength (Between Terminals)	No defects											
13 , 2	Resistance to Soldering Heat (On-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		First the capacitor should be stored at 120+0/-5°C for 60+0/-5 sec. Then, the lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X8L) Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.										
		Appearance	No defects or abnormalities											
		Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)		Within ±7.5%									
		Dielectric Strength (Between Terminals)	No defects											
13 , 3	Resistance to Soldering Heat (Soldering Iron Method)	The measured and observed characteristics should satisfy the specifications in the following table.		Test condition Temperature of iron-tip: 350±10°C Soldering time: 3.5±0.5sec. Soldering position Straight Lead: 1.5 to 2.0mm from the root of terminal. Crimp Lead: 1.5 to 2.0mm from the end of lead bend. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X8L) Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.										
		Appearance	No defects or abnormalities											
		Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)		Within ±7.5%									
		Dielectric Strength (Between Terminals)	No defects											
14	Thermal Shock	The measured and observed characteristics should satisfy the specifications in the following table.		Perform the 300 cycles according to the two heat treatments listed in the following table (Maximum transfer time is 20s.). Let sit for 24±2hrs. at *room condition, then measure.										
		Appearance	No defects or abnormalities											
		Capacitance Change	Within ±5% or ±0.5pF (Whichever is larger)	Within ±12.5%	<table><tr><th>Step</th><th>1</th><th>2</th></tr><tr><td>Temp. (°C)</td><td>-55+0/-3</td><td>150+3/-0</td></tr><tr><td>Time (min.)</td><td>15±3</td><td>15±3</td></tr></table>	Step	1	2	Temp. (°C)	-55+0/-3	150+3/-0	Time (min.)	15±3	15±3
		Step	1	2										
		Temp. (°C)	-55+0/-3	150+3/-0										
		Time (min.)	15±3	15±3										
Q/D.F.	Q ≥ 350	0.05 max.												
I.R.	1,000MΩ or 50MΩ • μF min. (Whichever is smaller)													
15	ESD	Appearance	No defects or abnormalities		Per AEC-Q200-002									
		Capacitance	Within the specified tolerance											
		Q/D.F.	Q ≥ 1,000	0.025 max.										
		I.R.	More than 10,000MΩ or 500MΩ • μF (Whichever is smaller)											

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ➤

Specifications and Test Methods

Continued from the preceding page. ↘

No.	AEC-Q200 Test Item	Specification		AEC-Q200 Test Method																		
		Temperature Compensating Type (Char. X8G)	High Dielectric Constant Type (Char. X8L)																			
16	Solderability	Lead wire should be soldered with uniform coating on the axial direction over 95% of the circumferential direction.		The terminal of a capacitor is dipped into a solution of ethanol (JIS-K-8101) and rosin (JIS-K-5902) (25%rosin in weight propotion) and then into molten solder (JIS-Z-3282) for 2±0.5 sec. In both cases the depth of dipping is up to about 1.5 to 2mm from the terminal body. Temp. of solder: 245±5°C Lead Free Solder (Sn-3.0Ag-0.5Cu) 235±5°C H60A or H63A Eutectic Solder																		
17	Electrical Charac- terization	Appearance	No defects or abnormalities		Visual inspection.																	
		Capacitance	Within the specified tolerance		The capacitance, Q/D.F. should be measured at 25°C at the frequency and voltage shown in the table.																	
		Q/D.F.	Q ≥ 1,000	0.025 max.	<table><tr><th>Char.</th><th>Nominal Cap.</th><th>Frequency</th><th>Voltage</th></tr><tr><td>X8G</td><td>C ≤ 1,000pF</td><td>1±0.1MHz</td><td>AC0.5 to 5V (r.m.s.)</td></tr><tr><td>X8G</td><td>C > 1000pF</td><td>1±0.1kHz</td><td>AC1±0.2V (r.m.s.)</td></tr><tr><td>X8L</td><td>—</td><td>1±0.1kHz</td><td>AC1±0.2V (r.m.s.)</td></tr></table>	Char.	Nominal Cap.	Frequency	Voltage	X8G	C ≤ 1,000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)	X8G	C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)	X8L	—	1±0.1kHz	AC1±0.2V (r.m.s.)	
		Char.	Nominal Cap.	Frequency	Voltage																	
		X8G	C ≤ 1,000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)																	
		X8G	C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)																	
X8L	—	1±0.1kHz	AC1±0.2V (r.m.s.)																			
Insulation Resistance (I.R.)	Room Temperature	10,000MΩ or 500MΩ • μF min. (Whichever is smaller)		The insulation resistance should be measured at 25±3°C with a DC voltage not exceeding the rated voltage at normal temperature and humidity and within 2min. of charging. (Charge/Discharge current ≤ 50mA.)																		
	High Temperature	100MΩ or 5MΩ • μF min. (Whichever is smaller)		The insulation resistance should be measured at 150±3°C with a DC voltage not exceeding the rated voltage at normal temperature and humidity and within 2min. of charging. (Charge/Discharge current ≤ 50mA.)																		
Dielectric Strength	Between Terminals	No defects or abnormalities		The capacitor should not be damaged when DC voltage of 300% of the rated voltage (for Char. X8G) or DC voltage of 250% of the rated voltage (for Char. X8L) is applied between the terminations for 1 to 5 sec. (Charge/Discharge current ≤ 50mA.)																		
	Body Insulation	No defects or abnormalities		The capacitor is placed in a container with metal balls of 1mm diameter so that each terminal, short-circuit is kept approximately 2mm from the balls, and 250% of the rated DC voltage is impressed for 1 to 5 sec. between capacitor terminals and metal balls. (Charge/Discharge current ≤ 50mA.) 																		
18	Terminal Strength	Tensile Strength	Termination not to be broken or loosened		As in the figure, fix the capacitor body, apply the force gradually to each lead in the radial direction of the capacitor until reaching 10N and then keep the force applied for 10±1 sec. 																	
		Bending Strength	Termination not to be broken or loosened		Each lead wire should be subjected to a force of 2.5N and then be bent 90° at the point of egress in one direction. Each wire is then returned to the original position and bent 90° in the opposite direction at the rate of one bend per 2 to 3 sec.																	
19	Capacitance Temperature Characteristics	<table><tr><th>Char.</th><th>Temperature Coefficient</th></tr><tr><td rowspan="2">X8G</td><td>25 to 150°C: 0±30ppm/°C</td></tr><tr><td>-55 to 25°C: 0+30/-72ppm/°C</td></tr></table>	Char.	Temperature Coefficient	X8G	25 to 150°C: 0±30ppm/°C	-55 to 25°C: 0+30/-72ppm/°C	Within ±15% (Temp. Range: -55 to +125°C) Within +15/-40% (Temp. Range: +125 to +150°C)		The capacitance change should be measured after 5min. at each specified temperature step. <table><tr><th>Step</th><th>Temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>150±3</td></tr><tr><td>5</td><td>25±2</td></tr></table> The temperature coefficient or the ranges of capacitance change is determined using the capacitance measured in step 3 as a reference. •Pretreatment Perform the heat treatment at 150+0/-10°C for 60±5 min and then let sit for 24±2hrs. at *room condition. Perform the initial measurement. (for Char. X8L)	Step	Temperature (°C)	1	25±2	2	-55±3	3	25±2	4	150±3	5	25±2
Char.	Temperature Coefficient																					
X8G	25 to 150°C: 0±30ppm/°C																					
	-55 to 25°C: 0+30/-72ppm/°C																					
Step	Temperature (°C)																					
1	25±2																					
2	-55±3																					
3	25±2																					
4	150±3																					
5	25±2																					

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Radial Lead Type Monolithic Ceramic Capacitors

RDE Series (For General Use Only) (DC25V-DC1kV)

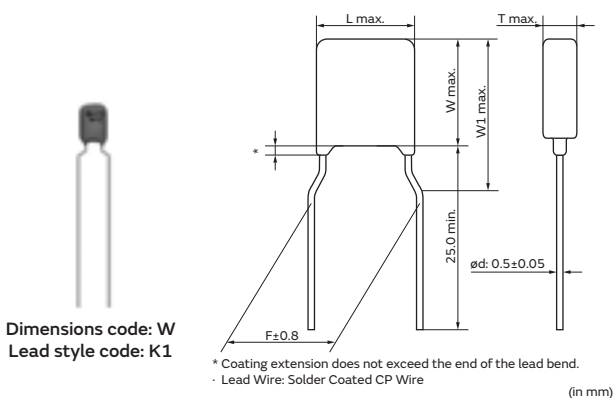
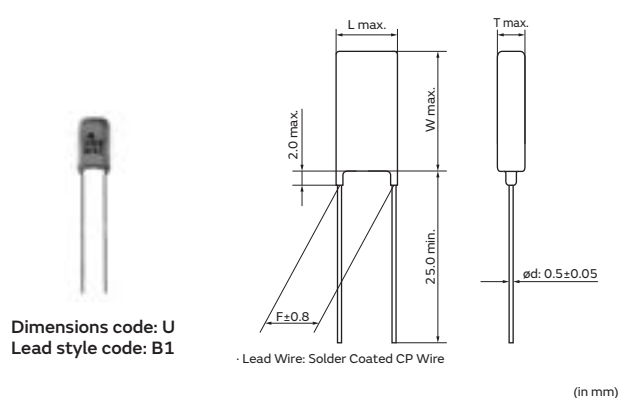
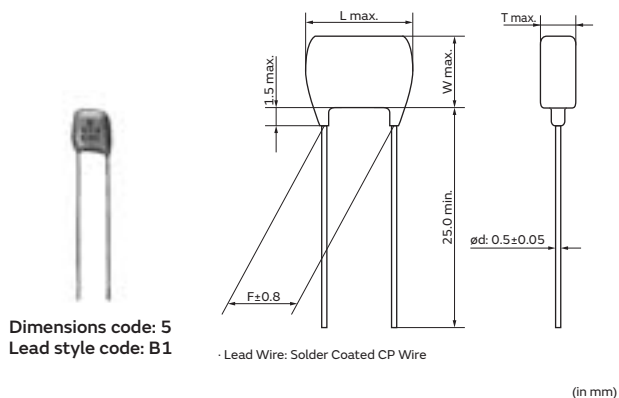
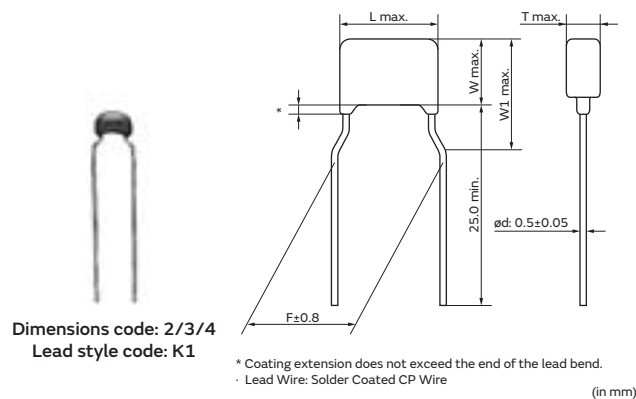
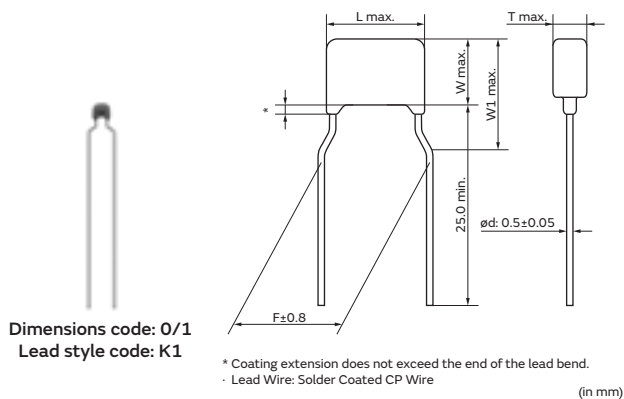
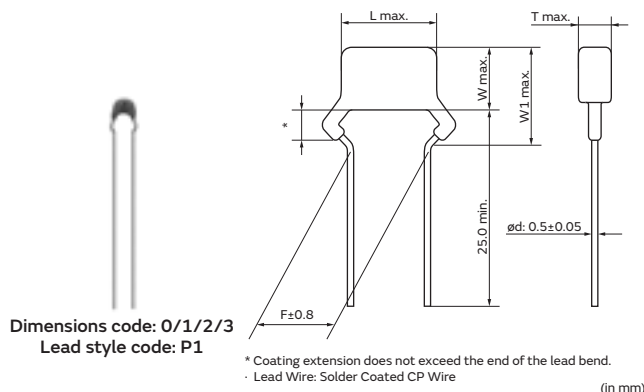
Features

1. Small size and large capacitance
2. Low ESR characteristics for high frequency
3. Meet LF (Lead Free) and HF (Halogen Free)
4. Flow soldering is available, but re-flow soldering is not available.

Applications

General electronic equipment

(Do not use for automotive-related power train and safety equipment.)



Dimensions

Dimensions and Lead Style Code	Dimensions (mm)					
	L	W	W1	T	F	d
0P1/0S1	5.0	3.5	6.0	See the individual product specification	2.5	0.5
0K1/0M1	4.0	3.5	6.0		5.0	0.5
1P1/1S1	5.0	3.5	5.0		2.5	0.5
1K1/1M1	4.5	3.5	5.0		5.0	0.5
2P1/2S1	5.5	4.0	6.0		2.5	0.5
2K1/2M1	5.5	4.0	6.0		5.0	0.5
3P1/3S1	5.5	5.0	7.5		2.5	0.5
3K1/3M1	5.5	5.0	7.5		5.0	0.5
4K1/4M1	7.5	5.5	8.0		5.0	0.5
5B1/5E1	7.5	7.5*	-		5.0	0.5
UB1/UE1	7.7	12.5*	-		5.0	0.5
WK1/WM1	5.5	7.5	10.0		5.0	0.5

*DC630V, DC1kV: W+0.5mm

Marking

Dimensions Code	Rated Voltage	DC25V		DC50V			DC100V			DC250V	DC500V	DC630V	DC1kV
		X7S	X7R	C0G	X7S	X7R	C0G	X7S	X7R	X7R, U2J, C0G			
0			104K		-			-		-		-	-
1		224K	-	A 102J	-	224K	A 102J	-	224K	U 102J (U2J) 102K (X7R)	103K (X7R)	-	-
2		M475 K2C	-	M563 J5A	M475 K5C	M105 K5C	M103 J1A	-	M105 K1C	M103 J4U (U2J) M473 K4C (X7R) M153 J4A (C0G)	M153 K9C (X7R)	M472 J7U (U2J) M153 K7C (X7R) M332 J7A (C0G)	M102 JAU (U2J) M102 KAC (X7R) M102 JAA (C0G)
3, 4, W		M226 K2C	-	-	M226 K5C	M335 K5C	-	M225 K1C	-	M473 J4U (U2J) M224 K4C (X7R)	M104 K9C (X7R)	M103 J7U (U2J) M104 K7C (X7R)	M472 JAU (U2J) M333 KAC (X7R)
5, U		-	-	-	-	-	-	-	-	- M474 K4C (X7R)	M474 K9C (X7R)	M333 J7U (U2J) M474 M7C (X7R)	M103 JAU (U2J) M104 KAC (X7R)
Temperature Characteristics		Marked with code (C0G char.: A, X7S/X7R char.: C, U2J char.: U) A part is omitted (Please refer to the marking example.)											
Nominal Capacitance		Under 100pF: Actual value 100pF and over: Marked with 3 figures											
Capacitance Tolerance		Marked with code A part is omitted (Please refer to the marking example.)											
Rated Voltage		Marked with code (DC25V: 2, DC50V: 5, DC100V: 1, DC250V: 4, DC500V: 9, DC630V: 7, DC1kV: A) A part is omitted (Please refer to the marking example.)											
Manufacturer's Identification		Marked with M A part is omitted (Please refer to the marking example.)											

Temperature Compensating Type, C0G/U2J Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C1H1R0C0□□H03□	C0G (EIA)	50Vdc	1.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H1R0C0□□H03□	C0G (EIA)	50Vdc	1.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H2R0C0□□H03□	C0G (EIA)	50Vdc	2.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H2R0C0□□H03□	C0G (EIA)	50Vdc	2.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H3R0C0□□H03□	C0G (EIA)	50Vdc	3.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H3R0C0□□H03□	C0G (EIA)	50Vdc	3.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H4R0C0□□H03□	C0G (EIA)	50Vdc	4.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H4R0C0□□H03□	C0G (EIA)	50Vdc	4.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H5R0C0□□H03□	C0G (EIA)	50Vdc	5.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H5R0C0□□H03□	C0G (EIA)	50Vdc	5.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C1H6R0D0□□H03□	COG (EIA)	50Vdc	6.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H6R0D0□□H03□	COG (EIA)	50Vdc	6.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H7R0D0□□H03□	COG (EIA)	50Vdc	7.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H7R0D0□□H03□	COG (EIA)	50Vdc	7.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H8R0D0□□H03□	COG (EIA)	50Vdc	8.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H8R0D0□□H03□	COG (EIA)	50Vdc	8.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H9R0D0□□H03□	COG (EIA)	50Vdc	9.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H9R0D0□□H03□	COG (EIA)	50Vdc	9.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H100J0□□H03□	COG (EIA)	50Vdc	10pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H100J0□□H03□	COG (EIA)	50Vdc	10pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H120J0□□H03□	COG (EIA)	50Vdc	12pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H120J0□□H03□	COG (EIA)	50Vdc	12pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H150J0□□H03□	COG (EIA)	50Vdc	15pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H150J0□□H03□	COG (EIA)	50Vdc	15pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H180J0□□H03□	COG (EIA)	50Vdc	18pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H180J0□□H03□	COG (EIA)	50Vdc	18pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H220J0□□H03□	COG (EIA)	50Vdc	22pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H220J0□□H03□	COG (EIA)	50Vdc	22pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H270J0□□H03□	COG (EIA)	50Vdc	27pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H270J0□□H03□	COG (EIA)	50Vdc	27pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H330J0□□H03□	COG (EIA)	50Vdc	33pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H330J0□□H03□	COG (EIA)	50Vdc	33pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H390J0□□H03□	COG (EIA)	50Vdc	39pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H390J0□□H03□	COG (EIA)	50Vdc	39pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H470J0□□H03□	COG (EIA)	50Vdc	47pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H470J0□□H03□	COG (EIA)	50Vdc	47pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H560J0□□H03□	COG (EIA)	50Vdc	56pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H560J0□□H03□	COG (EIA)	50Vdc	56pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H680J0□□H03□	COG (EIA)	50Vdc	68pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H680J0□□H03□	COG (EIA)	50Vdc	68pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H820J0□□H03□	COG (EIA)	50Vdc	82pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H820J0□□H03□	COG (EIA)	50Vdc	82pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H101J0□□H03□	COG (EIA)	50Vdc	100pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H101J0□□H03□	COG (EIA)	50Vdc	100pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H121J0□□H03□	COG (EIA)	50Vdc	120pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H121J0□□H03□	COG (EIA)	50Vdc	120pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H151J0□□H03□	COG (EIA)	50Vdc	150pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H151J0□□H03□	COG (EIA)	50Vdc	150pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H181J0□□H03□	COG (EIA)	50Vdc	180pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H181J0□□H03□	COG (EIA)	50Vdc	180pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H221J0□□H03□	COG (EIA)	50Vdc	220pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H221J0□□H03□	COG (EIA)	50Vdc	220pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H271J0□□H03□	COG (EIA)	50Vdc	270pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H271J0□□H03□	COG (EIA)	50Vdc	270pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H331J0□□H03□	COG (EIA)	50Vdc	330pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H331J0□□H03□	COG (EIA)	50Vdc	330pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H391J0□□H03□	COG (EIA)	50Vdc	390pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H391J0□□H03□	COG (EIA)	50Vdc	390pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H471J0□□H03□	COG (EIA)	50Vdc	470pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H471J0□□H03□	COG (EIA)	50Vdc	470pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H561J0□□H03□	COG (EIA)	50Vdc	560pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H561J0□□H03□	COG (EIA)	50Vdc	560pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H681J0□□H03□	COG (EIA)	50Vdc	680pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H681J0□□H03□	COG (EIA)	50Vdc	680pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H821J0□□H03□	COG (EIA)	50Vdc	820pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H821J0□□H03□	COG (EIA)	50Vdc	820pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H102J0□□H03□	COG (EIA)	50Vdc	1000pF±5%	4.0×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C1H102J0□□H03□	COG (EIA)	50Vdc	1000pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H122J0□□H03□	COG (EIA)	50Vdc	1200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H122J0□□H03□	COG (EIA)	50Vdc	1200pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H152J0□□H03□	COG (EIA)	50Vdc	1500pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H152J0□□H03□	COG (EIA)	50Vdc	1500pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H182J0□□H03□	COG (EIA)	50Vdc	1800pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H182J0□□H03□	COG (EIA)	50Vdc	1800pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H222J0□□H03□	COG (EIA)	50Vdc	2200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H222J0□□H03□	COG (EIA)	50Vdc	2200pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H272J0□□H03□	COG (EIA)	50Vdc	2700pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H272J0□□H03□	COG (EIA)	50Vdc	2700pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H332J0□□H03□	COG (EIA)	50Vdc	3300pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H332J0□□H03□	COG (EIA)	50Vdc	3300pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H392J0□□H03□	COG (EIA)	50Vdc	3900pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C1H392J0□□H03□	COG (EIA)	50Vdc	3900pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C1H472J1□□H03□	COG (EIA)	50Vdc	4700pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H472J1□□H03□	COG (EIA)	50Vdc	4700pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H562J1□□H03□	COG (EIA)	50Vdc	5600pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H562J1□□H03□	COG (EIA)	50Vdc	5600pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H682J1□□H03□	COG (EIA)	50Vdc	6800pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H682J1□□H03□	COG (EIA)	50Vdc	6800pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H822J1□□H03□	COG (EIA)	50Vdc	8200pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H822J1□□H03□	COG (EIA)	50Vdc	8200pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H103J1□□H03□	COG (EIA)	50Vdc	10000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H103J1□□H03□	COG (EIA)	50Vdc	10000pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H123J1□□H03□	COG (EIA)	50Vdc	12000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H123J1□□H03□	COG (EIA)	50Vdc	12000pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H153J1□□H03□	COG (EIA)	50Vdc	15000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H153J1□□H03□	COG (EIA)	50Vdc	15000pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H183J1□□H03□	COG (EIA)	50Vdc	18000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H183J1□□H03□	COG (EIA)	50Vdc	18000pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H223J1□□H03□	COG (EIA)	50Vdc	22000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C1H223J1□□H03□	COG (EIA)	50Vdc	22000pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C1H273J2□□H03□	COG (EIA)	50Vdc	27000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C1H273J2□□H03□	COG (EIA)	50Vdc	27000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C1H333J2□□H03□	COG (EIA)	50Vdc	33000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C1H333J2□□H03□	COG (EIA)	50Vdc	33000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C1H393J2□□H03□	COG (EIA)	50Vdc	39000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C1H393J2□□H03□	COG (EIA)	50Vdc	39000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C1H473J2□□H03□	COG (EIA)	50Vdc	47000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C1H473J2□□H03□	COG (EIA)	50Vdc	47000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C1H563J2□□H03□	COG (EIA)	50Vdc	56000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C1H563J2□□H03□	COG (EIA)	50Vdc	56000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A1R0C0□□H03□	COG (EIA)	100Vdc	1.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A1R0C0□□H03□	COG (EIA)	100Vdc	1.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A2R0C0□□H03□	COG (EIA)	100Vdc	2.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A2R0C0□□H03□	COG (EIA)	100Vdc	2.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A3R0C0□□H03□	COG (EIA)	100Vdc	3.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A3R0C0□□H03□	COG (EIA)	100Vdc	3.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A4R0C0□□H03□	COG (EIA)	100Vdc	4.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A4R0C0□□H03□	COG (EIA)	100Vdc	4.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A5R0C0□□H03□	COG (EIA)	100Vdc	5.0pF±0.25pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A5R0C0□□H03□	COG (EIA)	100Vdc	5.0pF±0.25pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A6R0D0□□H03□	COG (EIA)	100Vdc	6.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A6R0D0□□H03□	COG (EIA)	100Vdc	6.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A7R0D0□□H03□	COG (EIA)	100Vdc	7.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A7R0D0□□H03□	COG (EIA)	100Vdc	7.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C2A8R0D0□□H03□	COG (EIA)	100Vdc	8.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A8R0D0□□H03□	COG (EIA)	100Vdc	8.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A9R0D0□□H03□	COG (EIA)	100Vdc	9.0pF±0.5pF	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A9R0D0□□H03□	COG (EIA)	100Vdc	9.0pF±0.5pF	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A100J0□□H03□	COG (EIA)	100Vdc	10pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A100J0□□H03□	COG (EIA)	100Vdc	10pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A120J0□□H03□	COG (EIA)	100Vdc	12pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A120J0□□H03□	COG (EIA)	100Vdc	12pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A150J0□□H03□	COG (EIA)	100Vdc	15pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A150J0□□H03□	COG (EIA)	100Vdc	15pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A180J0□□H03□	COG (EIA)	100Vdc	18pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A180J0□□H03□	COG (EIA)	100Vdc	18pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A220J0□□H03□	COG (EIA)	100Vdc	22pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A220J0□□H03□	COG (EIA)	100Vdc	22pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A270J0□□H03□	COG (EIA)	100Vdc	27pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A270J0□□H03□	COG (EIA)	100Vdc	27pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A330J0□□H03□	COG (EIA)	100Vdc	33pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A330J0□□H03□	COG (EIA)	100Vdc	33pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A390J0□□H03□	COG (EIA)	100Vdc	39pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A390J0□□H03□	COG (EIA)	100Vdc	39pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A470J0□□H03□	COG (EIA)	100Vdc	47pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A470J0□□H03□	COG (EIA)	100Vdc	47pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A560J0□□H03□	COG (EIA)	100Vdc	56pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A560J0□□H03□	COG (EIA)	100Vdc	56pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A680J0□□H03□	COG (EIA)	100Vdc	68pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A680J0□□H03□	COG (EIA)	100Vdc	68pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A820J0□□H03□	COG (EIA)	100Vdc	82pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A820J0□□H03□	COG (EIA)	100Vdc	82pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A101J0□□H03□	COG (EIA)	100Vdc	100pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A101J0□□H03□	COG (EIA)	100Vdc	100pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A121J0□□H03□	COG (EIA)	100Vdc	120pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A121J0□□H03□	COG (EIA)	100Vdc	120pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A151J0□□H03□	COG (EIA)	100Vdc	150pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A151J0□□H03□	COG (EIA)	100Vdc	150pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A181J0□□H03□	COG (EIA)	100Vdc	180pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A181J0□□H03□	COG (EIA)	100Vdc	180pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A221J0□□H03□	COG (EIA)	100Vdc	220pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A221J0□□H03□	COG (EIA)	100Vdc	220pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A271J0□□H03□	COG (EIA)	100Vdc	270pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A271J0□□H03□	COG (EIA)	100Vdc	270pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A331J0□□H03□	COG (EIA)	100Vdc	330pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A331J0□□H03□	COG (EIA)	100Vdc	330pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A391J0□□H03□	COG (EIA)	100Vdc	390pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A391J0□□H03□	COG (EIA)	100Vdc	390pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A471J0□□H03□	COG (EIA)	100Vdc	470pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A471J0□□H03□	COG (EIA)	100Vdc	470pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A561J0□□H03□	COG (EIA)	100Vdc	560pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A561J0□□H03□	COG (EIA)	100Vdc	560pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A681J0□□H03□	COG (EIA)	100Vdc	680pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A681J0□□H03□	COG (EIA)	100Vdc	680pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A821J0□□H03□	COG (EIA)	100Vdc	820pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A821J0□□H03□	COG (EIA)	100Vdc	820pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A102J0□□H03□	COG (EIA)	100Vdc	1000pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A102J0□□H03□	COG (EIA)	100Vdc	1000pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A122J0□□H03□	COG (EIA)	100Vdc	1200pF±5%	4.0×3.5	2.5	5.0	K1	M1
RDE5C2A122J0□□H03□	COG (EIA)	100Vdc	1200pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A152J0□□H03□	COG (EIA)	100Vdc	1500pF±5%	4.0×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C2A152J0□□H03□	COG (EIA)	100Vdc	1500pF±5%	5.0×3.5	2.5	2.5	P1	S1
RDE5C2A182J1□□H03□	COG (EIA)	100Vdc	1800pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C2A182J1□□H03□	COG (EIA)	100Vdc	1800pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C2A222J1□□H03□	COG (EIA)	100Vdc	2200pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C2A222J1□□H03□	COG (EIA)	100Vdc	2200pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C2A272J1□□H03□	COG (EIA)	100Vdc	2700pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C2A272J1□□H03□	COG (EIA)	100Vdc	2700pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C2A332J1□□H03□	COG (EIA)	100Vdc	3300pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE5C2A332J1□□H03□	COG (EIA)	100Vdc	3300pF±5%	5.0×3.5	3.15	2.5	P1	S1
RDE5C2A392J2□□H03□	COG (EIA)	100Vdc	3900pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A392J2□□H03□	COG (EIA)	100Vdc	3900pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A472J2□□H03□	COG (EIA)	100Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A472J2□□H03□	COG (EIA)	100Vdc	4700pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A562J2□□H03□	COG (EIA)	100Vdc	5600pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A562J2□□H03□	COG (EIA)	100Vdc	5600pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A682J2□□H03□	COG (EIA)	100Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A682J2□□H03□	COG (EIA)	100Vdc	6800pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A822J2□□H03□	COG (EIA)	100Vdc	8200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A822J2□□H03□	COG (EIA)	100Vdc	8200pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A103J2□□H03□	COG (EIA)	100Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A103J2□□H03□	COG (EIA)	100Vdc	10000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A123J2□□H03□	COG (EIA)	100Vdc	12000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A123J2□□H03□	COG (EIA)	100Vdc	12000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A153J2□□H03□	COG (EIA)	100Vdc	15000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A153J2□□H03□	COG (EIA)	100Vdc	15000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A183J2□□H03□	COG (EIA)	100Vdc	18000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A183J2□□H03□	COG (EIA)	100Vdc	18000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2A223J2□□H03□	COG (EIA)	100Vdc	22000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2A223J2□□H03□	COG (EIA)	100Vdc	22000pF±5%	5.5×4.0	3.15	2.5	P1	S1
RDE5C2E100J2□□H03□	COG (EIA)	250Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E120J2□□H03□	COG (EIA)	250Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E150J2□□H03□	COG (EIA)	250Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E180J2□□H03□	COG (EIA)	250Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E220J2□□H03□	COG (EIA)	250Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E270J2□□H03□	COG (EIA)	250Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E330J2□□H03□	COG (EIA)	250Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E390J2□□H03□	COG (EIA)	250Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E470J2□□H03□	COG (EIA)	250Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E560J2□□H03□	COG (EIA)	250Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E680J2□□H03□	COG (EIA)	250Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E820J2□□H03□	COG (EIA)	250Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E101J2□□H03□	COG (EIA)	250Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E121J2□□H03□	COG (EIA)	250Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E151J2□□H03□	COG (EIA)	250Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E181J2□□H03□	COG (EIA)	250Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E221J2□□H03□	COG (EIA)	250Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E271J2□□H03□	COG (EIA)	250Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E331J2□□H03□	COG (EIA)	250Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E391J2□□H03□	COG (EIA)	250Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E471J2□□H03□	COG (EIA)	250Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E561J2□□H03□	COG (EIA)	250Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E681J2□□H03□	COG (EIA)	250Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E821J2□□H03□	COG (EIA)	250Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E102J2□□H03□	COG (EIA)	250Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E122J2□□H03□	COG (EIA)	250Vdc	1200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E152J2□□H03□	COG (EIA)	250Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E182J2□□H03□	COG (EIA)	250Vdc	1800pF±5%	5.5×4.0	3.15	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C2E222J2□□H03□	COG (EIA)	250Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E272J2□□H03□	COG (EIA)	250Vdc	2700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E332J2□□H03□	COG (EIA)	250Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E392J2□□H03□	COG (EIA)	250Vdc	3900pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E472J2□□H03□	COG (EIA)	250Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E562J2□□H03□	COG (EIA)	250Vdc	5600pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E682J2□□H03□	COG (EIA)	250Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E822J2□□H03□	COG (EIA)	250Vdc	8200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E103J2□□H03□	COG (EIA)	250Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E123J2□□H03□	COG (EIA)	250Vdc	12000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2E153J2□□H03□	COG (EIA)	250Vdc	15000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J100J2□□H03□	COG (EIA)	630Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J120J2□□H03□	COG (EIA)	630Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J150J2□□H03□	COG (EIA)	630Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J180J2□□H03□	COG (EIA)	630Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J220J2□□H03□	COG (EIA)	630Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J270J2□□H03□	COG (EIA)	630Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J330J2□□H03□	COG (EIA)	630Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J390J2□□H03□	COG (EIA)	630Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J470J2□□H03□	COG (EIA)	630Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J560J2□□H03□	COG (EIA)	630Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J680J2□□H03□	COG (EIA)	630Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J820J2□□H03□	COG (EIA)	630Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J101J2□□H03□	COG (EIA)	630Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J121J2□□H03□	COG (EIA)	630Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J151J2□□H03□	COG (EIA)	630Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J181J2□□H03□	COG (EIA)	630Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J221J2□□H03□	COG (EIA)	630Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J271J2□□H03□	COG (EIA)	630Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J331J2□□H03□	COG (EIA)	630Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J391J2□□H03□	COG (EIA)	630Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J471J2□□H03□	COG (EIA)	630Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J561J2□□H03□	COG (EIA)	630Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J681J2□□H03□	COG (EIA)	630Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J821J2□□H03□	COG (EIA)	630Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J102J2□□H03□	COG (EIA)	630Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J122J2□□H03□	COG (EIA)	630Vdc	1200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J152J2□□H03□	COG (EIA)	630Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J182J2□□H03□	COG (EIA)	630Vdc	1800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J222J2□□H03□	COG (EIA)	630Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J272J2□□H03□	COG (EIA)	630Vdc	2700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C2J332J2□□H03□	COG (EIA)	630Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A100J2□□H03□	COG (EIA)	1000Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A120J2□□H03□	COG (EIA)	1000Vdc	12pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A150J2□□H03□	COG (EIA)	1000Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A180J2□□H03□	COG (EIA)	1000Vdc	18pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A220J2□□H03□	COG (EIA)	1000Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A270J2□□H03□	COG (EIA)	1000Vdc	27pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A330J2□□H03□	COG (EIA)	1000Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A390J2□□H03□	COG (EIA)	1000Vdc	39pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A470J2□□H03□	COG (EIA)	1000Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A560J2□□H03□	COG (EIA)	1000Vdc	56pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A680J2□□H03□	COG (EIA)	1000Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A820J2□□H03□	COG (EIA)	1000Vdc	82pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A101J2□□H03□	COG (EIA)	1000Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A121J2□□H03□	COG (EIA)	1000Vdc	120pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A151J2□□H03□	COG (EIA)	1000Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE5C3A181J2□□H03□	COG (EIA)	1000Vdc	180pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A221J2□□H03□	COG (EIA)	1000Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A271J2□□H03□	COG (EIA)	1000Vdc	270pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A331J2□□H03□	COG (EIA)	1000Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A391J2□□H03□	COG (EIA)	1000Vdc	390pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A471J2□□H03□	COG (EIA)	1000Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A561J2□□H03□	COG (EIA)	1000Vdc	560pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A681J2□□H03□	COG (EIA)	1000Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A821J2□□H03□	COG (EIA)	1000Vdc	820pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE5C3A102J2□□H03□	COG (EIA)	1000Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2E101J1□□H03□	U2J (EIA)	250Vdc	100pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E151J1□□H03□	U2J (EIA)	250Vdc	150pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E221J1□□H03□	U2J (EIA)	250Vdc	220pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E331J1□□H03□	U2J (EIA)	250Vdc	330pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E471J1□□H03□	U2J (EIA)	250Vdc	470pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E681J1□□H03□	U2J (EIA)	250Vdc	680pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E102J1□□H03□	U2J (EIA)	250Vdc	1000pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E152J1□□H03□	U2J (EIA)	250Vdc	1500pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E222J1□□H03□	U2J (EIA)	250Vdc	2200pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E332J1□□H03□	U2J (EIA)	250Vdc	3300pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E472J1□□H03□	U2J (EIA)	250Vdc	4700pF±5%	4.5×3.5	3.15	5.0	K1	M1
RDE7U2E682J2□□H03□	U2J (EIA)	250Vdc	6800pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2E103J2□□H03□	U2J (EIA)	250Vdc	10000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2E153J2□□H03□	U2J (EIA)	250Vdc	15000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2E223J2□□H03□	U2J (EIA)	250Vdc	22000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2E333J3□□H03□	U2J (EIA)	250Vdc	33000pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U2E473J3□□H03□	U2J (EIA)	250Vdc	47000pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U2J100J2□□H03□	U2J (EIA)	630Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J150J2□□H03□	U2J (EIA)	630Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J220J2□□H03□	U2J (EIA)	630Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J330J2□□H03□	U2J (EIA)	630Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J470J2□□H03□	U2J (EIA)	630Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J680J2□□H03□	U2J (EIA)	630Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J101J2□□H03□	U2J (EIA)	630Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J151J2□□H03□	U2J (EIA)	630Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J221J2□□H03□	U2J (EIA)	630Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J331J2□□H03□	U2J (EIA)	630Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J471J2□□H03□	U2J (EIA)	630Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J681J2□□H03□	U2J (EIA)	630Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J102J2□□H03□	U2J (EIA)	630Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J152J2□□H03□	U2J (EIA)	630Vdc	1500pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J222J2□□H03□	U2J (EIA)	630Vdc	2200pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J332J2□□H03□	U2J (EIA)	630Vdc	3300pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J472J2□□H03□	U2J (EIA)	630Vdc	4700pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U2J682J3□□H03□	U2J (EIA)	630Vdc	6800pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U2J103J3□□H03□	U2J (EIA)	630Vdc	10000pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U2J153J4□□H03□	U2J (EIA)	630Vdc	15000pF±5%	7.5×5.5	4.0	5.0	K1	M1
RDE7U2J223J4□□H03□	U2J (EIA)	630Vdc	22000pF±5%	7.5×5.5	4.0	5.0	K1	M1
RDE7U2J333J5□□H03□	U2J (EIA)	630Vdc	33000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RDE7U2J473J5□□H03□	U2J (EIA)	630Vdc	47000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RDE7U2J943JU□□H03□	U2J (EIA)	630Vdc	94000pF±5%	7.7×13.0	4.0	5.0	B1	E1
RDE7U3A100J2□□H03□	U2J (EIA)	1000Vdc	10pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A150J2□□H03□	U2J (EIA)	1000Vdc	15pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A220J2□□H03□	U2J (EIA)	1000Vdc	22pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A330J2□□H03□	U2J (EIA)	1000Vdc	33pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A470J2□□H03□	U2J (EIA)	1000Vdc	47pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A680J2□□H03□	U2J (EIA)	1000Vdc	68pF±5%	5.5×4.0	3.15	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDE7U3A101J2□□H03□	U2J (EIA)	1000Vdc	100pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A151J2□□H03□	U2J (EIA)	1000Vdc	150pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A221J2□□H03□	U2J (EIA)	1000Vdc	220pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A331J2□□H03□	U2J (EIA)	1000Vdc	330pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A471J2□□H03□	U2J (EIA)	1000Vdc	470pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A681J2□□H03□	U2J (EIA)	1000Vdc	680pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A102J2□□H03□	U2J (EIA)	1000Vdc	1000pF±5%	5.5×4.0	3.15	5.0	K1	M1
RDE7U3A152J3□□H03□	U2J (EIA)	1000Vdc	1500pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U3A222J3□□H03□	U2J (EIA)	1000Vdc	2200pF±5%	5.5×5.0	4.0	5.0	K1	M1
RDE7U3A332J4□□H03□	U2J (EIA)	1000Vdc	3300pF±5%	7.5×5.5	4.0	5.0	K1	M1
RDE7U3A472J4□□H03□	U2J (EIA)	1000Vdc	4700pF±5%	7.5×5.5	4.0	5.0	K1	M1
RDE7U3A682J5□□H03□	U2J (EIA)	1000Vdc	6800pF±5%	7.5×8.0	4.0	5.0	B1	E1
RDE7U3A103J5□□H03□	U2J (EIA)	1000Vdc	10000pF±5%	7.5×8.0	4.0	5.0	B1	E1
RDE7U3A203JU□□H03□	U2J (EIA)	1000Vdc	20000pF±5%	7.7×13.0	4.0	5.0	B1	E1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.
The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

High Dielectric Constant Type, X7R/X7S Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDER71E104K0□□H03□	X7R (EIA)	25Vdc	0.1μF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71E104K0□□H03□	X7R (EIA)	25Vdc	0.1μF±10%	5.0×3.5	2.5	2.5	P1	S1
RDEC71E224K0□□H03□	X7S (EIA)	25Vdc	0.22μF±10%	4.0×3.5	2.5	5.0	K1	M1
RDEC71E224K0□□H03□	X7S (EIA)	25Vdc	0.22μF±10%	5.0×3.5	2.5	2.5	P1	S1
RDEC71E474K0□□H03□	X7S (EIA)	25Vdc	0.47μF±10%	4.0×3.5	2.5	5.0	K1	M1
RDEC71E474K0□□H03□	X7S (EIA)	25Vdc	0.47μF±10%	5.0×3.5	2.5	2.5	P1	S1
RDEC71E105K0□□H03□	X7S (EIA)	25Vdc	1.0μF±10%	4.0×3.5	2.5	5.0	K1	M1
RDEC71E105K0□□H03□	X7S (EIA)	25Vdc	1.0μF±10%	5.0×3.5	2.5	2.5	P1	S1
RDEC71E225K1□□H03□	X7S (EIA)	25Vdc	2.2μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDEC71E225K1□□H03□	X7S (EIA)	25Vdc	2.2μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDEC71E475K2□□H03□	X7S (EIA)	25Vdc	4.7μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDEC71E475K2□□H03□	X7S (EIA)	25Vdc	4.7μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDEC71E106K2□□H03□	X7S (EIA)	25Vdc	10μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDEC71E106K2□□H03□	X7S (EIA)	25Vdc	10μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDEC71E226K3□□H03□	X7S (EIA)	25Vdc	22μF±10%	5.5×5.0	4.0	2.5	P1	S1
RDEC71E226K3□□H03□	X7S (EIA)	25Vdc	22μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDEC71E476MW□□H03□	X7S (EIA)	25Vdc	47μF±20%	5.5×7.5	4.0	5.0	K1	M1
RDER71H221K0□□H03□	X7R (EIA)	50Vdc	220pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H221K0□□H03□	X7R (EIA)	50Vdc	220pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H331K0□□H03□	X7R (EIA)	50Vdc	330pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H331K0□□H03□	X7R (EIA)	50Vdc	330pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H471K0□□H03□	X7R (EIA)	50Vdc	470pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H471K0□□H03□	X7R (EIA)	50Vdc	470pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H681K0□□H03□	X7R (EIA)	50Vdc	680pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H681K0□□H03□	X7R (EIA)	50Vdc	680pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H102K0□□H03□	X7R (EIA)	50Vdc	1000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H102K0□□H03□	X7R (EIA)	50Vdc	1000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H152K0□□H03□	X7R (EIA)	50Vdc	1500pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H152K0□□H03□	X7R (EIA)	50Vdc	1500pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H222K0□□H03□	X7R (EIA)	50Vdc	2200pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H222K0□□H03□	X7R (EIA)	50Vdc	2200pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H332K0□□H03□	X7R (EIA)	50Vdc	3300pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H332K0□□H03□	X7R (EIA)	50Vdc	3300pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H472K0□□H03□	X7R (EIA)	50Vdc	4700pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H472K0□□H03□	X7R (EIA)	50Vdc	4700pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H682K0□□H03□	X7R (EIA)	50Vdc	6800pF±10%	4.0×3.5	2.5	5.0	K1	M1

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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDER71H682K0□□H03□	X7R (EIA)	50Vdc	6800pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H103K0□□H03□	X7R (EIA)	50Vdc	10000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H103K0□□H03□	X7R (EIA)	50Vdc	10000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H153K0□□H03□	X7R (EIA)	50Vdc	15000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H153K0□□H03□	X7R (EIA)	50Vdc	15000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H223K0□□H03□	X7R (EIA)	50Vdc	22000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H223K0□□H03□	X7R (EIA)	50Vdc	22000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H333K0□□H03□	X7R (EIA)	50Vdc	33000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H333K0□□H03□	X7R (EIA)	50Vdc	33000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H473K0□□H03□	X7R (EIA)	50Vdc	47000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H473K0□□H03□	X7R (EIA)	50Vdc	47000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H683K0□□H03□	X7R (EIA)	50Vdc	68000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H683K0□□H03□	X7R (EIA)	50Vdc	68000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H104K0□□H03□	X7R (EIA)	50Vdc	0.1μF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER71H104K0□□H03□	X7R (EIA)	50Vdc	0.1μF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER71H154K1□□H03□	X7R (EIA)	50Vdc	0.15μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER71H154K1□□H03□	X7R (EIA)	50Vdc	0.15μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER71H224K1□□H03□	X7R (EIA)	50Vdc	0.22μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER71H224K1□□H03□	X7R (EIA)	50Vdc	0.22μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER71H334K1□□H03□	X7R (EIA)	50Vdc	0.33μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER71H334K1□□H03□	X7R (EIA)	50Vdc	0.33μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER71H474K1□□H03□	X7R (EIA)	50Vdc	0.47μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER71H474K1□□H03□	X7R (EIA)	50Vdc	0.47μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER71H684K2□□H03□	X7R (EIA)	50Vdc	0.68μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER71H684K2□□H03□	X7R (EIA)	50Vdc	0.68μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDEC71H105K1□□H03□	X7S (EIA)	50Vdc	1.0μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDEC71H105K1□□H03□	X7S (EIA)	50Vdc	1.0μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER71H105K2□□H03□	X7R (EIA)	50Vdc	1.0μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER71H105K2□□H03□	X7R (EIA)	50Vdc	1.0μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER71H155K2□□H03□	X7R (EIA)	50Vdc	1.5μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER71H155K2□□H03□	X7R (EIA)	50Vdc	1.5μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER71H225K2□□H03□	X7R (EIA)	50Vdc	2.2μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER71H225K2□□H03□	X7R (EIA)	50Vdc	2.2μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER71H335K3□□H03□	X7R (EIA)	50Vdc	3.3μF±10%	5.5×5.0	4.0	2.5	P1	S1
RDER71H335K3□□H03□	X7R (EIA)	50Vdc	3.3μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDEC71H475K2□□H03□	X7S (EIA)	50Vdc	4.7μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDEC71H475K2□□H03□	X7S (EIA)	50Vdc	4.7μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDEC71H106K3□□H03□	X7S (EIA)	50Vdc	10μF±10%	5.5×5.0	4.0	2.5	P1	S1
RDEC71H106K3□□H03□	X7S (EIA)	50Vdc	10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDEC71H226MW□□H03□	X7S (EIA)	50Vdc	22μF±20%	5.5×7.5	4.0	5.0	K1	M1
RDER72A221K0□□H03□	X7R (EIA)	100Vdc	220pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A221K0□□H03□	X7R (EIA)	100Vdc	220pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A331K0□□H03□	X7R (EIA)	100Vdc	330pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A331K0□□H03□	X7R (EIA)	100Vdc	330pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A471K0□□H03□	X7R (EIA)	100Vdc	470pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A471K0□□H03□	X7R (EIA)	100Vdc	470pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A681K0□□H03□	X7R (EIA)	100Vdc	680pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A681K0□□H03□	X7R (EIA)	100Vdc	680pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A102K0□□H03□	X7R (EIA)	100Vdc	1000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A102K0□□H03□	X7R (EIA)	100Vdc	1000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A152K0□□H03□	X7R (EIA)	100Vdc	1500pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A152K0□□H03□	X7R (EIA)	100Vdc	1500pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A222K0□□H03□	X7R (EIA)	100Vdc	2200pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A222K0□□H03□	X7R (EIA)	100Vdc	2200pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A332K0□□H03□	X7R (EIA)	100Vdc	3300pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A332K0□□H03□	X7R (EIA)	100Vdc	3300pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A472K0□□H03□	X7R (EIA)	100Vdc	4700pF±10%	4.0×3.5	2.5	5.0	K1	M1

Continued on the following page. ➡

Continued from the preceding page. ➡

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDER72A472K0□□H03□	X7R (EIA)	100Vdc	4700pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A682K0□□H03□	X7R (EIA)	100Vdc	6800pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A682K0□□H03□	X7R (EIA)	100Vdc	6800pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A103K0□□H03□	X7R (EIA)	100Vdc	10000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A103K0□□H03□	X7R (EIA)	100Vdc	10000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A153K0□□H03□	X7R (EIA)	100Vdc	15000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A153K0□□H03□	X7R (EIA)	100Vdc	15000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A223K0□□H03□	X7R (EIA)	100Vdc	22000pF±10%	4.0×3.5	2.5	5.0	K1	M1
RDER72A223K0□□H03□	X7R (EIA)	100Vdc	22000pF±10%	5.0×3.5	2.5	2.5	P1	S1
RDER72A333K1□□H03□	X7R (EIA)	100Vdc	33000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A333K1□□H03□	X7R (EIA)	100Vdc	33000pF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A473K1□□H03□	X7R (EIA)	100Vdc	47000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A473K1□□H03□	X7R (EIA)	100Vdc	47000pF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A683K1□□H03□	X7R (EIA)	100Vdc	68000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A683K1□□H03□	X7R (EIA)	100Vdc	68000pF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A104K1□□H03□	X7R (EIA)	100Vdc	0.1μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A104K1□□H03□	X7R (EIA)	100Vdc	0.1μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A154K2□□H03□	X7R (EIA)	100Vdc	0.15μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER72A154K2□□H03□	X7R (EIA)	100Vdc	0.15μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72A224K1□□H03□	X7R (EIA)	100Vdc	0.22μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A224K1□□H03□	X7R (EIA)	100Vdc	0.22μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A334K1□□H03□	X7R (EIA)	100Vdc	0.33μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A334K1□□H03□	X7R (EIA)	100Vdc	0.33μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A474K1□□H03□	X7R (EIA)	100Vdc	0.47μF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72A474K1□□H03□	X7R (EIA)	100Vdc	0.47μF±10%	5.0×3.5	3.15	2.5	P1	S1
RDER72A684K2□□H03□	X7R (EIA)	100Vdc	0.68μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER72A684K2□□H03□	X7R (EIA)	100Vdc	0.68μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72A105K2□□H03□	X7R (EIA)	100Vdc	1.0μF±10%	5.5×4.0	3.15	2.5	P1	S1
RDER72A105K2□□H03□	X7R (EIA)	100Vdc	1.0μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDEC72A155K3□□H03□	X7S (EIA)	100Vdc	1.5μF±10%	5.5×5.0	4.0	2.5	P1	S1
RDEC72A155K3□□H03□	X7S (EIA)	100Vdc	1.5μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDEC72A225K3□□H03□	X7S (EIA)	100Vdc	2.2μF±10%	5.5×5.0	4.0	2.5	P1	S1
RDEC72A225K3□□H03□	X7S (EIA)	100Vdc	2.2μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDEC72A475MW□□H03□	X7S (EIA)	100Vdc	4.7μF±20%	5.5×7.5	4.0	5.0	K1	M1
RDER72E102K1□□H03□	X7R (EIA)	250Vdc	1000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E152K1□□H03□	X7R (EIA)	250Vdc	1500pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E222K1□□H03□	X7R (EIA)	250Vdc	2200pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E332K1□□H03□	X7R (EIA)	250Vdc	3300pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E472K1□□H03□	X7R (EIA)	250Vdc	4700pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E682K1□□H03□	X7R (EIA)	250Vdc	6800pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E103K1□□H03□	X7R (EIA)	250Vdc	10000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E153K1□□H03□	X7R (EIA)	250Vdc	15000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E223K1□□H03□	X7R (EIA)	250Vdc	22000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72E333K2□□H03□	X7R (EIA)	250Vdc	33000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72E473K2□□H03□	X7R (EIA)	250Vdc	47000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72E683K2□□H03□	X7R (EIA)	250Vdc	68000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72E104K2□□H03□	X7R (EIA)	250Vdc	0.10μF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72E154K3□□H03□	X7R (EIA)	250Vdc	0.15μF±10%	5.5×5.0	3.15	5.0	K1	M1
RDER72E224K3□□H03□	X7R (EIA)	250Vdc	0.22μF±10%	5.5×5.0	3.15	5.0	K1	M1
RDER72E334K4□□H03□	X7R (EIA)	250Vdc	0.33μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER72E474K4□□H03□	X7R (EIA)	250Vdc	0.47μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER72E684K5□□H03□	X7R (EIA)	250Vdc	0.68μF±10%	7.5×7.5	4.0	5.0	B1	E1
RDER72E105K5□□H03□	X7R (EIA)	250Vdc	1.0μF±10%	7.5×7.5	4.0	5.0	B1	E1
RDER72E225MU□□H03□	X7R (EIA)	250Vdc	2.2μF±20%	7.7×12.5	4.0	5.0	B1	E1
RDER72H102K1□□H03□	X7R (EIA)	500Vdc	1000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H152K1□□H03□	X7R (EIA)	500Vdc	1500pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H222K1□□H03□	X7R (EIA)	500Vdc	2200pF±10%	4.5×3.5	3.15	5.0	K1	M1

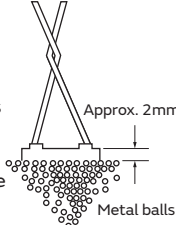
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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDER72H332K1□□H03□	X7R (EIA)	500Vdc	3300pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H472K1□□H03□	X7R (EIA)	500Vdc	4700pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H682K1□□H03□	X7R (EIA)	500Vdc	6800pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H103K1□□H03□	X7R (EIA)	500Vdc	10000pF±10%	4.5×3.5	3.15	5.0	K1	M1
RDER72H153K2□□H03□	X7R (EIA)	500Vdc	15000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72H223K2□□H03□	X7R (EIA)	500Vdc	22000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72H333K2□□H03□	X7R (EIA)	500Vdc	33000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72H473K2□□H03□	X7R (EIA)	500Vdc	47000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72H683K3□□H03□	X7R (EIA)	500Vdc	68000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDER72H104K3□□H03□	X7R (EIA)	500Vdc	0.1μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDER72H154K4□□H03□	X7R (EIA)	500Vdc	0.15μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER72H224K4□□H03□	X7R (EIA)	500Vdc	0.22μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER72H334K5□□H03□	X7R (EIA)	500Vdc	0.33μF±10%	7.5×7.5	4.0	5.0	B1	E1
RDER72H474K5□□H03□	X7R (EIA)	500Vdc	0.47μF±10%	7.5×7.5	4.0	5.0	B1	E1
RDER72H684MU□□H03□	X7R (EIA)	500Vdc	0.68μF±20%	7.7×12.5	4.0	5.0	B1	E1
RDER72H105MU□□H03□	X7R (EIA)	500Vdc	1.0μF±20%	7.7×12.5	4.0	5.0	B1	E1
RDER72J102K2□□H03□	X7R (EIA)	630Vdc	1000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J152K2□□H03□	X7R (EIA)	630Vdc	1500pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J222K2□□H03□	X7R (EIA)	630Vdc	2200pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J332K2□□H03□	X7R (EIA)	630Vdc	3300pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J472K2□□H03□	X7R (EIA)	630Vdc	4700pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J682K2□□H03□	X7R (EIA)	630Vdc	6800pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J103K2□□H03□	X7R (EIA)	630Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J153K2□□H03□	X7R (EIA)	630Vdc	15000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J223K2□□H03□	X7R (EIA)	630Vdc	22000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER72J333K3□□H03□	X7R (EIA)	630Vdc	33000pF±10%	5.5×5.0	3.15	5.0	K1	M1
RDER72J473K3□□H03□	X7R (EIA)	630Vdc	47000pF±10%	5.5×5.0	3.15	5.0	K1	M1
RDER72J683K4□□H03□	X7R (EIA)	630Vdc	68000pF±10%	7.5×5.5	3.15	5.0	K1	M1
RDER72J104K4□□H03□	X7R (EIA)	630Vdc	0.10μF±10%	7.5×5.5	3.15	5.0	K1	M1
RDER72J154K5□□H03□	X7R (EIA)	630Vdc	0.15μF±10%	7.5×8.0	4.0	5.0	B1	E1
RDER72J224K5□□H03□	X7R (EIA)	630Vdc	0.22μF±10%	7.5×8.0	4.0	5.0	B1	E1
RDER72J474MU□□H03□	X7R (EIA)	630Vdc	0.47μF±20%	7.7×13.0	4.0	5.0	B1	E1
RDER73A471K2□□H03□	X7R (EIA)	1000Vdc	470pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A681K2□□H03□	X7R (EIA)	1000Vdc	680pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A102K2□□H03□	X7R (EIA)	1000Vdc	1000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A152K2□□H03□	X7R (EIA)	1000Vdc	1500pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A222K2□□H03□	X7R (EIA)	1000Vdc	2200pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A332K2□□H03□	X7R (EIA)	1000Vdc	3300pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A472K2□□H03□	X7R (EIA)	1000Vdc	4700pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A682K2□□H03□	X7R (EIA)	1000Vdc	6800pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A103K2□□H03□	X7R (EIA)	1000Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDER73A153K3□□H03□	X7R (EIA)	1000Vdc	15000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDER73A223K3□□H03□	X7R (EIA)	1000Vdc	22000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDER73A333K4□□H03□	X7R (EIA)	1000Vdc	33000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER73A473K4□□H03□	X7R (EIA)	1000Vdc	47000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RDER73A683K5□□H03□	X7R (EIA)	1000Vdc	68000pF±10%	7.5×8.0	4.0	5.0	B1	E1
RDER73A104K5□□H03□	X7R (EIA)	1000Vdc	0.10μF±10%	7.5×8.0	4.0	5.0	B1	E1
RDER73A224MU□□H03□	X7R (EIA)	1000Vdc	0.22μF±20%	7.7×13.0	4.0	5.0	B1	E1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.
The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

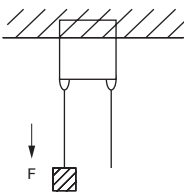
Specifications and Test Methods

No.	Item	Specifications		Test Method																					
		Temperature Compensating Type	High Dielectric Constant Type																						
1	Operating Temperature Range	-55 to +125°C	Char. X7R, X7S: -55 to +125°C	—																					
2	Appearance	No defects or abnormalities		Visual inspection																					
3	Dimension and Marking	See previous pages		Visual inspection, Vernier Caliper																					
4	Dielectric Strength	Between Terminals	No defects or abnormalities	The capacitors should not be damaged when test voltages of Table are applied between the terminals for 1 to 5sec. (Charge/Discharge current ≤ 50mA) <table><tr><th></th><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td rowspan="4">Temperature Compensating Type</td><td>DC50V, DC100V</td><td>300% of the rated voltage</td></tr><tr><td>DC250V</td><td>200% of the rated voltage</td></tr><tr><td>DC630V</td><td>150% of the rated voltage</td></tr><tr><td>DC1kV</td><td>130% of the rated voltage</td></tr><tr><td rowspan="4">High Dielectric Constant Type</td><td>DC25V, DC50V, DC100V</td><td>250% of the rated voltage</td></tr><tr><td>DC250V</td><td>200% of the rated voltage</td></tr><tr><td>DC500V, DC630V</td><td>150% of the rated voltage</td></tr><tr><td>DC1kV</td><td>120% of the rated voltage</td></tr></table>		Rated Voltage	Test Voltage	Temperature Compensating Type	DC50V, DC100V	300% of the rated voltage	DC250V	200% of the rated voltage	DC630V	150% of the rated voltage	DC1kV	130% of the rated voltage	High Dielectric Constant Type	DC25V, DC50V, DC100V	250% of the rated voltage	DC250V	200% of the rated voltage	DC500V, DC630V	150% of the rated voltage	DC1kV	120% of the rated voltage
			Rated Voltage	Test Voltage																					
Temperature Compensating Type	DC50V, DC100V	300% of the rated voltage																							
	DC250V	200% of the rated voltage																							
	DC630V	150% of the rated voltage																							
	DC1kV	130% of the rated voltage																							
High Dielectric Constant Type	DC25V, DC50V, DC100V	250% of the rated voltage																							
	DC250V	200% of the rated voltage																							
	DC500V, DC630V	150% of the rated voltage																							
	DC1kV	120% of the rated voltage																							
Body Insulation	No defects or abnormalities	The capacitor is placed in a container with metal balls of 1mm diameter so that each terminal, short-circuited, is kept approximately 2mm from the balls as shown in the figure, for 1 to 5 sec. between capacitor terminals and metal balls. (Charge/Discharge current ≤ 50mA)  <table><tr><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td>DC25V,DC50V,DC100V</td><td>250% of the rated voltage</td></tr><tr><td>DC250V, DC500V</td><td>200% of the rated voltage</td></tr><tr><td>DC630V, DC1kV</td><td>DC1300V</td></tr></table>	Rated Voltage	Test Voltage	DC25V,DC50V,DC100V	250% of the rated voltage	DC250V, DC500V	200% of the rated voltage	DC630V, DC1kV	DC1300V															
Rated Voltage	Test Voltage																								
DC25V,DC50V,DC100V	250% of the rated voltage																								
DC250V, DC500V	200% of the rated voltage																								
DC630V, DC1kV	DC1300V																								
5	Insulation Resistance	Between Terminals	<table><tr><th>Temperature Compensating Type</th><th>High Dielectric Constant Type</th></tr><tr><td>More than 10,000M or 500MΩ・μF (Whichever is smaller)</td><td>Rated voltage: DC25V, DC50V, DC100V More than 10,000M or 500MΩ・μF (Whichever is smaller) Rated voltage: DC250V, DC500V, DC630V, DC1kV More than 10,000M or 100MΩ・μF (Whichever is smaller)</td></tr></table>	Temperature Compensating Type	High Dielectric Constant Type	More than 10,000M or 500MΩ・μF (Whichever is smaller)	Rated voltage: DC25V, DC50V, DC100V More than 10,000M or 500MΩ・μF (Whichever is smaller) Rated voltage: DC250V, DC500V, DC630V, DC1kV More than 10,000M or 100MΩ・μF (Whichever is smaller)	The insulation resistance should be measured with a DC voltage not exceeding the rated voltage (DC500V in case of rated vlotage: DC500V, DC630V, DC1kV) at normal temperature and humidity and within 2min. of charging. (Charge/Discharge current ≤ 50mA)																	
Temperature Compensating Type	High Dielectric Constant Type																								
More than 10,000M or 500MΩ・μF (Whichever is smaller)	Rated voltage: DC25V, DC50V, DC100V More than 10,000M or 500MΩ・μF (Whichever is smaller) Rated voltage: DC250V, DC500V, DC630V, DC1kV More than 10,000M or 100MΩ・μF (Whichever is smaller)																								
6	Capacitance	Within the specified tolerance		The capacitance, Q/D.F. should be measured at 25°C at the frequency and voltage shown in the table.																					
7	Q/Dissipation Factor (D.F.)	30pF min.: Q ≥ 1,000 30pF max.: Q ≥ 400+20C C: Nominal capacitance (pF)	Char. X7R: 0.025 max. Char. X7S: 0.125 max.	Temperature Compensating Type <table><tr><th>Capacitance</th><th>Frequency</th><th>Voltage</th></tr><tr><td>C ≤ 1000pF</td><td>1±0.1MHz</td><td>AC0.5 to 5V (r.m.s.)</td></tr><tr><td>C > 1000pF</td><td>1±0.1kHz</td><td>AC1±0.2V (r.m.s.)</td></tr></table> High Dielectric Constant Type <table><tr><th>Capacitance</th><th>Frequency</th><th>Voltage</th></tr><tr><td>C ≤ 10μF</td><td>1±0.1kHz</td><td>AC1±0.2V (r.m.s.)</td></tr><tr><td>C > 10μF</td><td>120±24Hz</td><td>AC0.5±0.1V (r.m.s.)</td></tr></table>	Capacitance	Frequency	Voltage	C ≤ 1000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)	C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)	Capacitance	Frequency	Voltage	C ≤ 10μF	1±0.1kHz	AC1±0.2V (r.m.s.)	C > 10μF	120±24Hz	AC0.5±0.1V (r.m.s.)			
Capacitance	Frequency	Voltage																							
C ≤ 1000pF	1±0.1MHz	AC0.5 to 5V (r.m.s.)																							
C > 1000pF	1±0.1kHz	AC1±0.2V (r.m.s.)																							
Capacitance	Frequency	Voltage																							
C ≤ 10μF	1±0.1kHz	AC1±0.2V (r.m.s.)																							
C > 10μF	120±24Hz	AC0.5±0.1V (r.m.s.)																							

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Specifications and Test Methods

Continued from the preceding page. ↘

No.	Item	Specifications		Test Method																										
		Temperature Compensating Type	High Dielectric Constant Type																											
8	Capacitance Temperature Characteristics	<table><tr><th>Char.</th><th>Temperature Coefficient</th></tr><tr><td rowspan="2">C0G</td><td>25 to 125°C : 0±30ppm/°C</td></tr><tr><td>-55 to 25°C : 0+30/-72ppm/°C</td></tr><tr><td rowspan="2">U2J</td><td>25 to 125°C : -750±120ppm/°C</td></tr><tr><td>-55 to 25°C : -750+120/-347ppm/°C</td></tr></table>	Char.	Temperature Coefficient	C0G	25 to 125°C : 0±30ppm/°C	-55 to 25°C : 0+30/-72ppm/°C	U2J	25 to 125°C : -750±120ppm/°C	-55 to 25°C : -750+120/-347ppm/°C	<table><tr><th>Char.</th><th>Capacitance Change</th></tr><tr><td>X7R</td><td>Within ± 15%</td></tr><tr><td>X7S</td><td>Within ± 22%</td></tr></table>	Char.	Capacitance Change	X7R	Within ± 15%	X7S	Within ± 22%	The capacitance change should be measured after 5 min. at each specified temperature stage. The temperature coefficient is determined using the capacitance measured in step 3 as a reference. When cycling the temperature sequentially from step 1 through 5 (-55 to +125°C) the capacitance should be within the specified tolerance for the temperature coefficient and capacitance change. <table><tr><th>Step</th><th>Temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>125±3</td></tr><tr><td>5</td><td>25±2</td></tr></table> • Pretreatment (for high dielectric constant type) Perform a heat treatment at 150+0/-10°C for 1hr., and then let sit at room temperature for 24±2hrs.	Step	Temperature (°C)	1	25±2	2	-55±3	3	25±2	4	125±3	5	25±2
Char.	Temperature Coefficient																													
C0G	25 to 125°C : 0±30ppm/°C																													
	-55 to 25°C : 0+30/-72ppm/°C																													
U2J	25 to 125°C : -750±120ppm/°C																													
	-55 to 25°C : -750+120/-347ppm/°C																													
Char.	Capacitance Change																													
X7R	Within ± 15%																													
X7S	Within ± 22%																													
Step	Temperature (°C)																													
1	25±2																													
2	-55±3																													
3	25±2																													
4	125±3																													
5	25±2																													
9	Terminal Strength	Tensile Strength	Termination not to be broken or loosened	As in the figure, fix the capacitor body, apply the force gradually to each lead in the radial direction of the capacitor until reaching 10N and then keep the force applied for 10±1sec. 																										
		Bending Strength	Termination not to be broken or loosened	Each lead wire should be subjected to a force of 2.5N and then bent 90° at the point of egress in one direction. Each wire is then returned to the original position and bent 90° in the opposite direction at the rate of one bend per 2 to 3sec.																										
10	Vibration Resistance	Appearance	No defects or abnormalities		The capacitor should be firmly soldered to the supporting lead wire and vibrated at a frequency range of 10 to 55Hz, 1.5mm in total amplitude, with about a 1 minute rate of vibration change from 10Hz to 55Hz and back to 10Hz. Apply for a total of 6hrs., 2hrs. each in 3 mutually perpendicular directions.																									
		Capacitance	Within the specified tolerance																											
		Q/D.F.	30pF min.: Q ≥ 1,000 30pF max.: Q ≥ 400+20C C: Nominal capacitance (pF)	Char. X7R: 0.025 max. Char. X7S: 0.125 max.																										
11	Solderability of Leads	Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction.		The terminal of a capacitor is dipped into a 25% ethanol (JIS-K-8101) solution of rosin (JIS-K-5902) and then into molten solder for 2±0.5sec. In both cases the depth of dipping is up to about 1.5mm to 2mm from the terminal body. Temp. of solder: 245±5°C Lead Free Solder (Sn-3.0Ag-0.5Cu) 235±5°C H60A or H63A Eutectic Solder																										
12 , 1	Resistance to Soldering Heat (Non-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		The lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X7R, X7S) Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.																										
	Appearance	No defects or abnormalities																												
	Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)	Char. X7R: Within ±7.5% Char. X7S: Within ±10%																											
	Dielectric Strength (Between Terminals)	No defects																												

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ↗

Specifications and Test Methods

Continued from the preceding page. ↘

No.	Item	Specifications		Test Method																
		Temperature Compensating Type	High Dielectric Constant Type																	
12 , 2	Resistance to Soldering Heat (On-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		First the capacitor should be stored at 120+0/-5°C for 60+0/-5 sec. Then, the lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X7R, X7S) Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.																
		Appearance	No defects or abnormalities																	
		Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)		Char. X7R: Within ±7.5% Char. X7S: Within ±10%															
		Dielectric Strength (Between Terminals)	No defects																	
12 , 3	Resistance to Soldering Heat (Soldering Iron Method)	The measured and observed characteristics should satisfy the specifications in the following table.		Test condition Temperature of iron-tip: 350±10°C Soldering time: 3.5±0.5sec. Soldering position Straight Lead: 1.5 to 2.0mm from the root of terminal. Crimp Lead: 1.5 to 2.0mm from the end of lead bend. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. (For Char. X7R, X7S) Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.																
		Appearance	No defects or abnormalities																	
		Capacitance Change	Within ±2.5% or ±0.25pF (Whichever is larger)		Char. X7R: Within ±7.5% Char. X7S: Within ±10%															
		Dielectric Strength (Between Terminals)	No defects																	
13	Temperature Cycle	Appearance	No defects or abnormalities		The capacitor should be subjected to 5 temperature cycles. Set for 24±2hrs. at room temperature, then measure. <table><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr><tr><td>1</td><td>Min. Operating Temp. ±3</td><td>30±3</td></tr><tr><td>2</td><td>Room Temp.</td><td>3 max.</td></tr><tr><td>3</td><td>Max. Operating Temp. ±3</td><td>30±3</td></tr><tr><td>4</td><td>Room Temp.</td><td>3 max.</td></tr></table> • Pretreatment (for high dielectric constant type) Perform a heat treatment at 150+0/-10°C for 1hr., and then let sit at room temperature for 24±2hrs.	Step	Temperature (°C)	Time (min)	1	Min. Operating Temp. ±3	30±3	2	Room Temp.	3 max.	3	Max. Operating Temp. ±3	30±3	4	Room Temp.	3 max.
		Step	Temperature (°C)	Time (min)																
		1	Min. Operating Temp. ±3	30±3																
		2	Room Temp.	3 max.																
		3	Max. Operating Temp. ±3	30±3																
4	Room Temp.	3 max.																		
Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	Char. X7R, X7S: Within ±12.5%																		
Q/D.F.	30pF min.: Q ≥ 350 10pF to 30pF: Q ≥ 275+5C/2 10pF max.: Q ≥ 200+10C C: Nominal capacitance (pF)	Char. X7R: 0.05 max. Char. X7S: 0.2 max.																		
Insulation Resistance	1,000MΩ, 50MΩ • μF min. (whichever is smaller)																			
Dielectric Strength (Between Terminals)	No defects or abnormalities																			
14	Humidity (Steady State)	Appearance	No defects or abnormalities		Set the capacitor at 40±2°C and relative humidity of 90 to 95% for 500±24hrs. Remove and set for 24±2hrs. at room temperature, then measure. • Pretreatment (for high dielectric constant type) Perform a heat treatment at 150+0/-10°C for 1hr., and then let sit at room temperature for 24±2hrs.															
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	Char. X7R, X7S: Within ±12.5%																
		Q/D.F.	30pF min.: Q ≥ 350 10pF to 30pF: Q ≥ 275+5C/2 10pF max.: Q ≥ 200+10C C: Nominal capacitance (pF)	Char. X7R: 0.05 max. Char. X7S: 0.2 max.																
		Insulation Resistance	1,000MΩ, 50MΩ • μF min. (whichever is smaller)																	
15	Humidity Load	Appearance	No defects or abnormalities		Apply the rated voltage for 500±24hrs. at 40±2°C and in 90 to 95% humidity. Remove and set for 24±2hrs. at room temperature, then measure. (Charge/Discharge current ≤ 50mA) • Pretreatment (for high dielectric constant type) Perform a heat treatment at 150+0/-10°C for 1hr., and then let sit at room temperature for 24±2hrs.															
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	Char. X7R, X7S: Within ±12.5%																
		Q/D.F.	30pF min.: Q ≥ 200 30pF max.: Q ≥ 100+10C/3 C: Nominal capacitance (pF)	Char. X7R: 0.05 max. Char. X7S: 0.2 max.																
		Insulation Resistance	500MΩ or 25MΩ • μF min. (whichever is smaller)																	

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

Continued on the following page. ↗

Specifications and Test Methods

Continued from the preceding page. ↘

No.	Item		Specifications		Test Method															
			Temperature Compensating Type	High Dielectric Constant Type																
16	High Temperature Load	Appearance	No defects or abnormalities		Apply voltage in Table for 1000±48 hrs. at the maximum operating temperature±3°C. Remove and set for 24±2hrs. at room temperature, then measure. (Charge/Discharge current ≤ 50mA) <table><tr><th></th><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td rowspan="2">Temperature Compensating Type</td><td>DC50V, DC100V, DC250V</td><td>150% of the rated voltage</td></tr><tr><td>DC630V, DC1kV</td><td>120% of the rated voltage</td></tr><tr><td rowspan="3">High Dielectric Constant Type</td><td>DC25V, DC50V, DC100V, DC250V, DC500V</td><td>150% of the rated voltage</td></tr><tr><td>DC630V</td><td>120% of the rated voltage</td></tr><tr><td>DC1kV</td><td>110% of the rated voltage</td></tr></table> • Pretreatment (for high dielectric constant type) Appy test voltage for 1hr. at test temperature. Remove and set for 24±2hrs. at room temperature.		Rated Voltage	Test Voltage	Temperature Compensating Type	DC50V, DC100V, DC250V	150% of the rated voltage	DC630V, DC1kV	120% of the rated voltage	High Dielectric Constant Type	DC25V, DC50V, DC100V, DC250V, DC500V	150% of the rated voltage	DC630V	120% of the rated voltage	DC1kV	110% of the rated voltage
			Rated Voltage	Test Voltage																
		Temperature Compensating Type	DC50V, DC100V, DC250V	150% of the rated voltage																
			DC630V, DC1kV	120% of the rated voltage																
		High Dielectric Constant Type	DC25V, DC50V, DC100V, DC250V, DC500V	150% of the rated voltage																
DC630V	120% of the rated voltage																			
DC1kV	110% of the rated voltage																			
Capacitance Change	Within ±3% or ±0.3pF (whichever is larger)	Char. X7R, X7S: Within ±12.5%																		
Q/D.F.	30pF min.: Q ≥ 350 10pF to 30pF: Q ≥ 275+5C/2 10pF max.: Q ≥ 200+10C C: Nominal capacitance (pF)	Char. X7R: 0.04 max. Char. X7S: 0.2 max.																		
Insulation Resistance	1,000MΩ, 50MΩ • μF min. (whichever is smaller)																			
17	Solvent Resistance	Appearance	No defects or abnormalities		The capacitor should be fully immersed, unagitated, in reagent at 20 to 25°C for 30±5sec. and then removed gently. Marking on the surface of the capacitor should immediately be visually examined. Reagent: • Isopropyl alcohol															
		Marking	Legible																	

Apply voltage in Table for $1000 \pm \frac{48}{8}$ hrs. at the maximum operating temperature $\pm 3^\circ\text{C}$. Remove and set for 24 ± 2 hrs. at room temperature, then measure. (Charge/Discharge current $\leq 50\text{mA}$)

	Rated Voltage	Test Voltage
Temperature Compensating Type	DC50V, DC100V, DC250V	150% of the rated voltage
	DC630V, DC1kV	120% of the rated voltage
High Dielectric Constant Type	DC25V, DC50V, DC100V, DC250V, DC500V	150% of the rated voltage
	DC630V	120% of the rated voltage
	DC1kV	110% of the rated voltage

• Pretreatment (for high dielectric constant type)
Apply test voltage for 1hr. at test temperature. Remove and set for 24 ± 2 hrs. at room temperature.

The capacitor should be fully immersed, unagitated, in reagent at 20 to 25°C for 30 ± 5 sec. and then removed gently. Marking on the surface of the capacitor should immediately be visually examined.

Reagent:
• Isopropyl alcohol

Radial Lead Type Monolithic Ceramic Capacitors

RDE Series Large Capacitance and High Allowable Ripple Current (For General Use Only) (DC250V-DC630V)

Features

1. Higher capacitance with DC-Bias; approximately 40% higher than X7R under loaded rated voltage.
2. Meet LF (Lead Free) and HF (Halogen Free)
3. Allowable higher ripple current
4. Reduces acoustic noise

Approximately 15dB reduction in comparison to leaded X7R characteristics parts.

Approximately 30dB reduction in comparison to SMD X7R characteristics part because the contact area is smaller than a SMD.

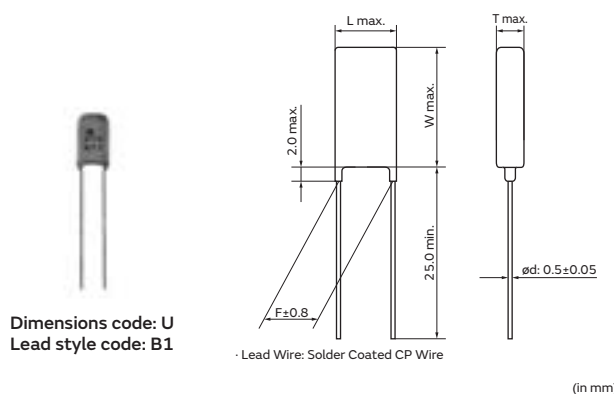
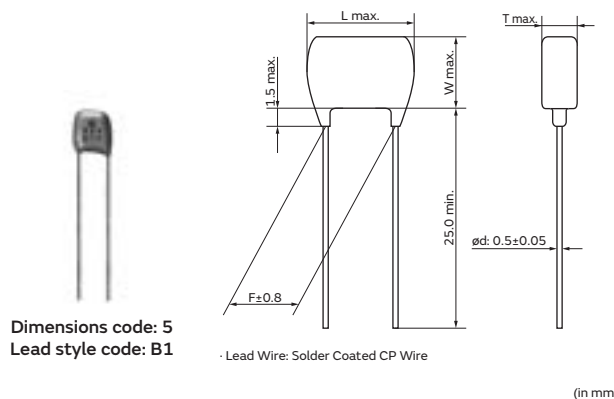
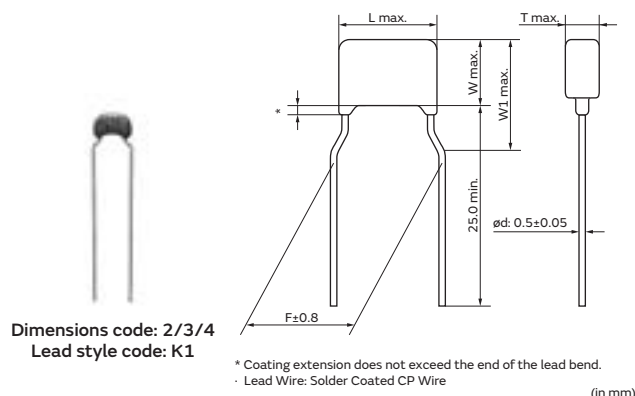
Applications

1. DC smoothing capacitor for LED bulb
2. PFC capacitor for general use SMPS
3. Replace Al-E capacitor for long-life equipment

Dimensions

Dimensions and Lead Style Code	DC Rated Voltage	Dimensions (mm)					
		L	W	W1	T	F	d
2K1/2M1	250V/450V/630V	5.5	4.0	6.0	See the individual product specification	5.0	0.5
3K1/3M1	250V/450V/630V	5.5	5.0	7.5		5.0	0.5
4K1/4M1	250V/450V/630V	7.5	5.5	8.0		5.0	0.5
5B1/5E1	250V/450V/630V	7.5	7.5*	-		5.0	0.5
UB1/UE1	250V/450V/630V	7.7	12.5*	-		5.0	0.5

*DC630V: W+0.5mm



Marking

Dimensions Code	Rated Voltage	DC250V	DC450V	DC630V
	Temp. Char.	X7T		
2				
3, 8				
5, U				
Temperature Characteristics		Marked with code (X7T char.: 7)		
Nominal Capacitance		Marked with 3 figures		
Capacitance Tolerance		Marked with code		
Rated Voltage		Marked with code (DC250V: 4, DC450V: 9, DC630V: 7)		
Manufacturer's Identification		Marked with		

High Dielectric Constant Type, X7T Characteristics

Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDED72E333K2□□H03□	X7T (EIA)	250Vdc	33000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72E473K2□□H03□	X7T (EIA)	250Vdc	47000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72E683K2□□H03□	X7T (EIA)	250Vdc	68000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72E104K3□□H03□	X7T (EIA)	250Vdc	0.10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72E154K3□□H03□	X7T (EIA)	250Vdc	0.15μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72E224K4□□H03□	X7T (EIA)	250Vdc	0.22μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDED72E334K4□□H03□	X7T (EIA)	250Vdc	0.33μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDED72E474K5□□H03□	X7T (EIA)	250Vdc	0.47μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72E684K5□□H03□	X7T (EIA)	250Vdc	0.68μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72E105K5□□H03□	X7T (EIA)	250Vdc	1.0μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72E225MU□□H03□	X7T (EIA)	250Vdc	2.2μF±20%	7.7×12.5	4.5	5.0	B1	E1
RDED72W103K2□□H03□	X7T (EIA)	450Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72W153K2□□H03□	X7T (EIA)	450Vdc	15000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72W223K2□□H03□	X7T (EIA)	450Vdc	22000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72W333K2□□H03□	X7T (EIA)	450Vdc	33000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72W473K2□□H03□	X7T (EIA)	450Vdc	47000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72W683K3□□H03□	X7T (EIA)	450Vdc	68000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72W104K3□□H03□	X7T (EIA)	450Vdc	0.10μF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72W154K4□□H03□	X7T (EIA)	450Vdc	0.15μF±10%	7.5×5.5	4.0	5.0	K1	M1
RDED72W224K5□□H03□	X7T (EIA)	450Vdc	0.22μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72W334K5□□H03□	X7T (EIA)	450Vdc	0.33μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72W474K5□□H03□	X7T (EIA)	450Vdc	0.47μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72W564K5□□H03□	X7T (EIA)	450Vdc	0.56μF±10%	7.5×7.5	4.5	5.0	B1	E1
RDED72W105MU□□H03□	X7T (EIA)	450Vdc	1.0μF±20%	7.7×12.5	4.5	5.0	B1	E1
RDED72W125MU□□H03□	X7T (EIA)	450Vdc	1.2μF±20%	7.7×12.5	4.5	5.0	B1	E1
RDED72J103K2□□H03□	X7T (EIA)	630Vdc	10000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72J153K2□□H03□	X7T (EIA)	630Vdc	15000pF±10%	5.5×4.0	3.15	5.0	K1	M1
RDED72J223K3□□H03□	X7T (EIA)	630Vdc	22000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72J333K3□□H03□	X7T (EIA)	630Vdc	33000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72J473K3□□H03□	X7T (EIA)	630Vdc	47000pF±10%	5.5×5.0	4.0	5.0	K1	M1
RDED72J683K4□□H03□	X7T (EIA)	630Vdc	68000pF±10%	7.5×5.5	4.0	5.0	K1	M1
RDED72J104K5□□H03□	X7T (EIA)	630Vdc	0.10μF±10%	7.5×8.0	4.5	5.0	B1	E1
RDED72J154K5□□H03□	X7T (EIA)	630Vdc	0.15μF±10%	7.5×8.0	4.5	5.0	B1	E1
RDED72J224K5□□H03□	X7T (EIA)	630Vdc	0.22μF±10%	7.5×8.0	4.5	5.0	B1	E1

Continued on the following page. ➤

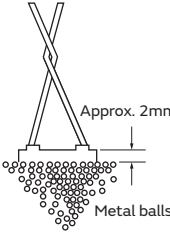
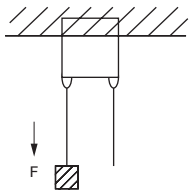
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Part Number	Temp. Char.	Rated Voltage	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping
RDED72J274K5 □□ H03 □	X7T (EIA)	630Vdc	0.27μF±10%	7.5×8.0	4.5	5.0	B1	E1
RDED72J474MU □□ H03 □	X7T (EIA)	630Vdc	0.47μF±20%	7.7×13.0	4.5	5.0	B1	E1
RDED72J564MU □□ H03 □	X7T (EIA)	630Vdc	0.56μF±20%	7.7×13.0	4.5	5.0	B1	E1

Two blank columns are filled with the lead style code. Please refer to the 3 columns on the right for the appropriate code.

The last blank column is filled with the packaging code. (B: bulk, A: ammo pack)

Specifications and Test Methods

No.	Item		Specifications	Test Method												
1	Operating Temperature Range		-55 to +125°C	—												
2	Appearance		No defects or abnormalities	Visual inspection												
3	Dimension and Marking		See previous pages	Visual inspection, Vernier Caliper												
4	Dielectric Strength	Between Terminals	No defects or abnormalities	The capacitor should not be damaged when voltage in Table is applied between the terminations for 1 to 5 sec. (Charge/Discharge current $\leq 50\text{mA}$) <table><tr><th>Rated Voltage</th><th>Test Voltage</th></tr><tr><td>DC250V</td><td>200% of the rated voltage</td></tr><tr><td>DC450V</td><td>150% of the rated voltage</td></tr><tr><td>DC630V</td><td>120% of the rated voltage</td></tr></table>	Rated Voltage	Test Voltage	DC250V	200% of the rated voltage	DC450V	150% of the rated voltage	DC630V	120% of the rated voltage				
		Rated Voltage	Test Voltage													
DC250V	200% of the rated voltage															
DC450V	150% of the rated voltage															
DC630V	120% of the rated voltage															
		Body Insulation	No defects or abnormalities	The capacitor is placed in a container with metal balls of 1mm diameter so that each terminal, short-circuit, is kept approximately 2mm from the balls as shown in the figure, and 200% of the rated DC voltage is impressed for 1 to 5sec between capacitor terminals and metal balls. (Charge/Discharge current $\leq 50\text{mA}$) 												
5	Insulation Resistance	Between Terminals	More than 10,000MΩ or 100MΩ • μF, Whichever is smaller	The insulation resistance should be measured with DC500V (DC250V in case of rated voltage: DC250V,DC450V) at normal temperature and humidity and within 2min of charging. (Charge/Discharge current $\leq 50\text{mA}$)												
6	Capacitance		Within the specified tolerance	The capacitance/D.F. should be measured at the frequency of 1±0.1kHz and a voltage of AC1±0.2V(r.m.s.).												
7	Dissipation Factor (D.F.)		0.01 max.													
8	Capacitance Temperature Characteristics		Within +22/-33%	The capacitance change should be measured after 5 min. at each specified temperature stage. <table><tr><th>Step</th><th>Temperature (°C)</th></tr><tr><td>1</td><td>25±2</td></tr><tr><td>2</td><td>-55±3</td></tr><tr><td>3</td><td>25±2</td></tr><tr><td>4</td><td>125±3</td></tr><tr><td>5</td><td>25±2</td></tr></table>	Step	Temperature (°C)	1	25±2	2	-55±3	3	25±2	4	125±3	5	25±2
Step	Temperature (°C)															
1	25±2															
2	-55±3															
3	25±2															
4	125±3															
5	25±2															
9	Terminal Strength	Tensile Strength	Termination not to be broken or loosened	As in the figure, fix the capacitor body, apply the force gradually to each lead in the radial direction of the capacitor until reaching 10N and then keep the force applied for 10±1sec. 												
		Bending Strength	Termination not to be broken or loosened	Each lead wire should be subjected to a force of 2.5N and then bent 90° at the point of egress in one direction. Each wire is then returned to the original position and bent 90° in the opposite direction at the rate of one bend per 2 to 3sec.												
10	Vibration Resistance	Appearance	No defects or abnormalities	The capacitor should be firmly soldered to the supporting lead wire and vibrated at a frequency range of 10 to 55Hz, 1.5mm in total amplitude, with about a 1 minute rate of vibration change from 10Hz to 55Hz and back to 10Hz. Apply for a total of 6hrs., 2hrs. each in 3 mutually perpendicular directions.												
		Capacitance	Within the specified tolerance													
		D.F.	0.01 max.													

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Specifications and Test Methods

Continued from the preceding page. ↘

No.	Item	Specifications		Test Method															
11	Solderability of Leads	Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction.		The terminal of a capacitor is dipped into a solution of ethanol (JIS-K-8101) and rosin (JIS-K-5902) (25% rosin in weight proportion) and then into molten solder (JIS-Z-3282) for 2±0.5 sec. In both cases the depth of dipping is up to about 1.5 to 2mm from the terminal body. Temp. of solder: 245±5°C Lead Free Solder (Sn-3.0Ag-0.5Cu) 235±5°C H60A or H63A Eutectic Solder															
12 , 1	Resistance to Soldering Heat (Non-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		The lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±10%																
		Dielectric Strength (Between Terminals)	No defects																
12 , 2	Resistance to Soldering Heat (On-Preheat)	The measured and observed characteristics should satisfy the specifications in the following table.		First the capacitor should be stored at 120+0/-5°C for 60+0/-5 sec. Then, the lead wires should be immersed in the melted solder 1.5 to 2.0mm from the root of terminal at 260±5°C for 7.5+0/-1sec. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1h, then place at room temperature for 24±2hrs. before initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at*room condition.															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±10%																
		Dielectric Strength (Between Terminals)	No defects																
12 , 3	Resistance to Soldering Heat (Soldering Iron Method)	The measured and observed characteristics should satisfy the specifications in the following table.		Test condition Temperature of iron-tip: 350±10°C Soldering time: 3.5±0.5sec. Soldering position Straight Lead: 1.5 to 2.0mm from the root of terminal. Crimp Lead: 1.5 to 2.0mm from the end of lead bend. Pre-treatment Capacitor should be stored at 150+0/-10°C for 1hr., then place at room temperature for 24±2hrs. before initial measurement. Post-treatment Capacitor should be stored for 24±2hrs. at* room condition.															
		Appearance	No defects or abnormalities																
		Capacitance Change	Within ±10%																
		Dielectric Strength (Between Terminals)	No defects																
13	Temperature Cycle	Appearance	No defects or abnormalities	The capacitor should be subjected to 5 temperature cycles. <table><thead><tr><th>Step</th><th>Temperature (°C)</th><th>Time (min)</th></tr></thead><tbody><tr><td>1</td><td>-55±3</td><td>30±3</td></tr><tr><td>2</td><td>Room Temp.</td><td>3 max.</td></tr><tr><td>3</td><td>125±3</td><td>30±3</td></tr><tr><td>4</td><td>Room Temp.</td><td>3 max.</td></tr></tbody></table> • Pretreatment Perform a heat treatment at 150+0/-10°C for 1hr., and then let sit at room temperature for 24±2hrs.	Step	Temperature (°C)	Time (min)	1	-55±3	30±3	2	Room Temp.	3 max.	3	125±3	30±3	4	Room Temp.	3 max.
		Step	Temperature (°C)		Time (min)														
		1	-55±3		30±3														
		2	Room Temp.		3 max.														
		3	125±3		30±3														
4	Room Temp.	3 max.																	
Capacitance Change	Within ±12.5%																		
D.F.	0.01 max.																		
Insulation Resistance	More than 1,000MΩ or 50MΩ • μF (Whichever is smaller)																		
Dielectric Strength (Between Terminals)	No defects or abnormalities																		
14	Humidity (Steady State)	Appearance	No defects or abnormalities	Set the capacitor at 40±2°C and relative humidity of 90 to 95% for 500 ⁺²⁴ ₀ hrs. Remove and set for 24±2hrs. at room temperature, then measure. • Pretreatment Perform a heat treatment at 150+0/-10°C for 1hr. and then let sit at room temperature for 24±2hrs.															
		Capacitance Change	Within ±12.5%																
		D.F.	0.02 max.																
		Insulation Resistance	More than 1,000MΩ or 50MΩ • μF (Whichever is smaller)																
15	Humidity Load	Appearance	No defects or abnormalities	Apply the rated voltage at 40±2°C and relative humidity of 90 to 95% for 500 ⁺²⁴ ₀ hrs. Remove and set for 24±2hrs. at room temperature, then measure. (Charge/Discharge current ≤ 50mA) • Pretreatment Perform a heat treatment at 150+0/-10°C for 1hr. and then let sit at room temperature for 24±2hrs.															
		Capacitance Change	Within ±12.5%																
		D.F.	0.02 max.																
		Insulation Resistance	More than 500MΩ or 25MΩ • μF (Whichever is smaller)																

* "room condition" Temperature: 15 to 35°C, Relative humidity: 45 to 75%, Atmosphere pressure: 86 to 106kPa

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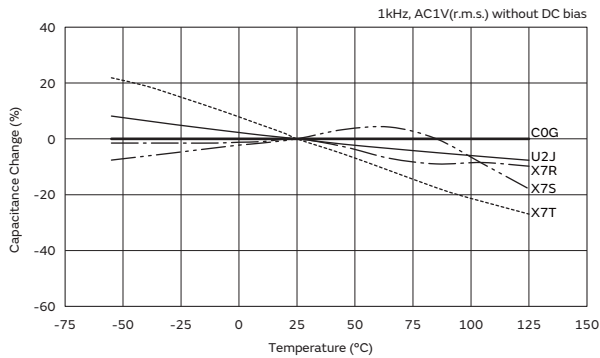
Specifications and Test Methods

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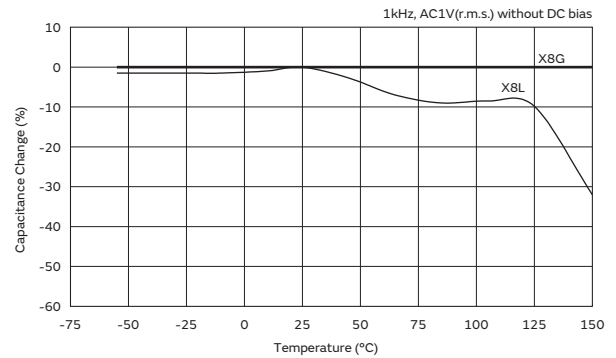
No.	Item		Specifications	Test Method								
16	High Temperature Load	Appearance	No defects or abnormalities	Apply voltage in Table for 1000 ± 48 hrs. at the maximum operating temperature. Remove and set for 24 ± 2 hrs. at room temperature, then measure. (Charge/Discharge current ≤ 50 mA) <table><thead><tr><th>Rated Voltage</th><th>Test Voltage</th></tr></thead><tbody><tr><td>DC250V</td><td>150% of the rated voltage</td></tr><tr><td>DC450V</td><td>130% of the rated voltage</td></tr><tr><td>DC630V</td><td>120% of the rated voltage</td></tr></tbody></table> • Pretreatment Apply test voltage for 1hr., at test temperature. Remove and set for 24 ± 2 hrs. at room temperature.	Rated Voltage	Test Voltage	DC250V	150% of the rated voltage	DC450V	130% of the rated voltage	DC630V	120% of the rated voltage
		Rated Voltage	Test Voltage									
		DC250V	150% of the rated voltage									
		DC450V	130% of the rated voltage									
DC630V	120% of the rated voltage											
Capacitance Change	Within $\pm 12.5\%$											
D.F.	0.02 max.											
Insulation Resistance	More than $1,000\text{M}\Omega$ or $50\text{M}\Omega \cdot \mu\text{F}$ (Whichever is smaller)											
17	Solvent Resistance	Appearance	No defects or abnormalities	The capacitor should be fully immersed, unagitated, in reagent at 20 to 25°C for 30 ± 5 sec. and then removed gently. Marking on the surface of the capacitor should immediately be visually examined. Reagent : • Isopropyl alcohol								
		Marking	Legible									

Characteristics Reference Data (Typical Example)

Capacitance - Temperature Characteristics (RCE, RDE Series)

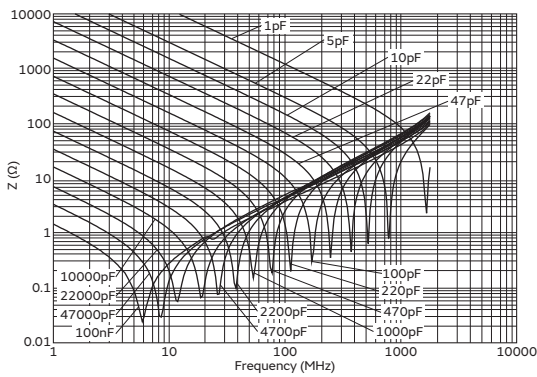


Capacitance - Temperature Characteristics (RHE Series)

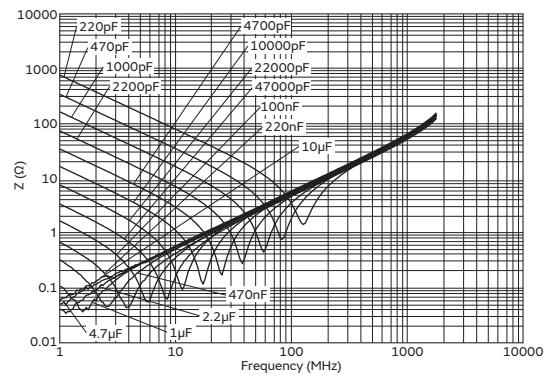


Impedance - Frequency Characteristics

Temperature Compensating Type



High Dielectric Constant Type



Packaging

Packaging

Two types of packaging for monolithic ceramic capacitors are available.

1. Bulk Packaging

Minimum Quantity

Dimensions Code	Dimensions (L×W)	Minimum Quantity (pcs./Bag)*
0	3.6×3.5mm or 4.0×3.5mm or 5.0×3.5mm (Depends on Part Number)	500
1	4.0×3.5mm or 4.5×3.5mm or 5.0×3.5mm (Depends on Part Number)	
2	5.5×4.0mm	
3	5.5×5.0mm	
4	7.5×5.5mm	
5	7.5×7.5mm or 7.5×8.0mm (Depends on Part Number)	
W	5.5×7.5mm	
U	7.7×12.5mm or 7.7×13.0mm (Depends on Part Number)	200

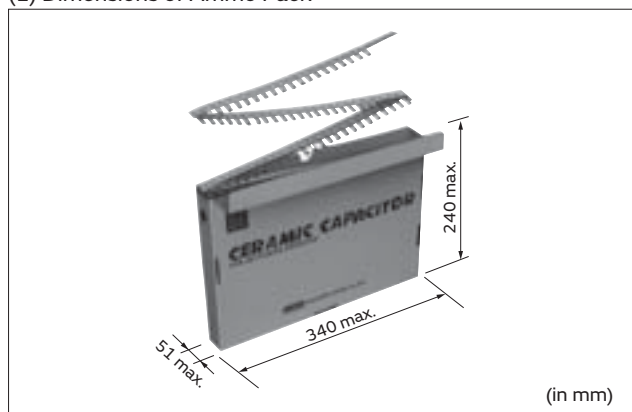
Please order with an integral multiple of the minimum quantity above.

*Minimum Quantity may change depends on part number.

Please check our website "Product details"

2. Tape Carrier Packaging

(1) Dimensions of Ammo Pack



(2) Minimum Quantity

Dimensions Code	Dimensions (L×W)	Minimum Quantity (pcs./Ammo Pack)*
0	3.6×3.5mm or 4.0×3.5mm or 5.0×3.5mm (Depends on Part Number)	2000
1	4.0×3.5mm or 4.5×3.5mm or 5.0×3.5mm (Depends on Part Number)	
2	5.5×4.0mm	
3	5.5×5.0mm	2000 or 1500
4	7.5×5.5mm	
5	7.5×7.5mm or 7.5×8.0mm (Depends on Part Number)	1500 or 1000
W	5.5×7.5mm	
U	7.7×12.5mm or 7.7×13.0mm (Depends on Part Number)	

Please order with an integral multiple of the minimum quantity above.

*Minimum Quantity may change depends on part number.

Please check our website "Product details"

"Minimum Quantity" means the numbers of units of each delivery or order. The quantity should be an integral multiple of the "minimum quantity." (Please note that the actual delivery quantity in a package may change sometimes.)

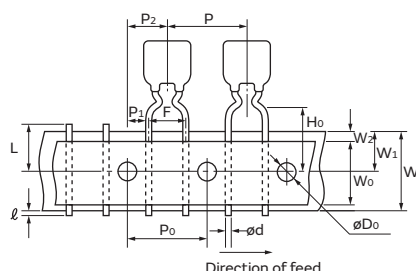
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Packaging

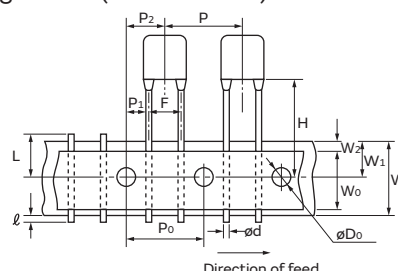
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Taping Dimensions

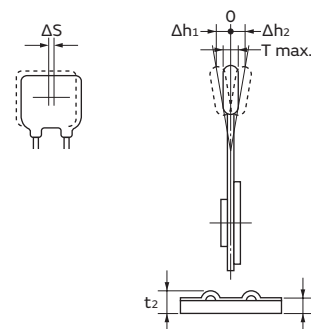
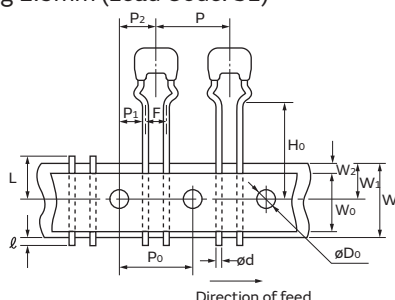
Inside Crimp Taping Lead Spacing 5.0mm (Lead Code: M1)



Straight Taping Lead Spacing 2.5mm (Lead Code: DB) Lead Spacing 5.0mm (Lead Code: E1)



Outside Crimp Taping Lead Spacing 2.5mm (Lead Code: S1)



Item	Code	Dimensions (mm)
Pitch of Component	P	12.7±1.0
Pitch of Sprocket Hole	P0	12.7±0.2
Lead Spacing	F	2.5 ^{+0.4} _{-0.2} (DB) (S1)
		5.0 ^{+0.6} _{-0.2} (E1) (M1)
Length from Hole Center to Component Center	P2	6.35±1.3
Length from Hole Center to Lead	P1	3.85±0.7 (E1) (M1)
		5.1±0.7 (DB) (S1)
		254±1.5 Total length of components pitch × 20
Body Dimension		Depends on Part Number
Deviation Along Tape, Left or Right Defect	ΔS	±2.0
Carrier Tape Width	W	18.0±0.5
Position of Sprocket Hole	W1	9.0 ⁺⁰ _{-0.5}
Lead Distance between Reference and Bottom Plane	H0	16.0±0.5 (M1) (S1)
For Straight Lead Type	H	17.5±0.5 (E1), 16±0.5 (DB)
Diameter of Sprocket Hole	D0	4.0±0.1
Lead Diameter	d	0.5±0.05
Total Tape Thickness	t1	0.6±0.3
Total Thickness of Tape and Lead Wire	t2	1.5 max.
Body Thickness	T	Depends on Part Number
Deviation Across Tape	Δh1 Δh2	1.0 max. (Dimensions code W, U: 2.0 max.)
Portion to Cut in Case of Defect	L	11.0 ⁺⁰ _{-1.0}
Protrusion Length	ℓ	0.5 max.
Hold Down Tape Width	W0	9.5 min.
Hold Down Tape Position	W2	1.5±1.5
Coating Extension		Depends on Dimensions

⚠Caution

⚠Caution (Storage and Operating Condition)

Operating and storage environment

The insulating coating of capacitors does not form a perfect seal; therefore, do not use or store capacitors in a corrosive atmosphere, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. Also avoid exposure to moisture. Before cleaning, bonding or molding this product, verify that these processes do not affect product quality by testing the performance of a cleaned, bonded or molded product in the intended

equipment. Store the capacitors where the temperature and relative humidity do not exceed 5 to 40 degrees centigrade and 20 to 70%. Use capacitors within 6 months after delivery.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHORT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

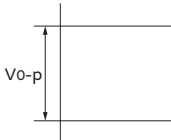
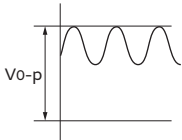
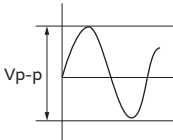
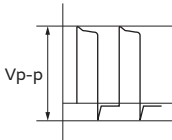
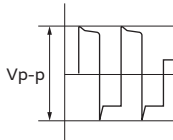
⚠Caution (Rating)

1. Operating Voltage

When DC-rated capacitors are to be used in AC or ripple current circuits, be sure to maintain the V_{p-p} value of the applied voltage or the V_{0-p} which contains DC bias within the rated voltage range.

When the voltage is applied to the circuit, starting or stopping may generate irregular voltage for a transit period because of resonance or switching. Be sure to use a capacitor with a rated voltage range that includes these irregular voltages.

When DC-rated capacitors are to be used in input circuits from commercial power source (AC filter), be sure to use Safety Recognized Capacitors because various regulations on withstand voltage or impulse withstand established for all equipment should be taken into consideration.

Voltage	DC Voltage	DC+AC Voltage	AC Voltage	Pulse Voltage (1)	Pulse Voltage (2)
Positional Measurement					

2. Operating Temperature

Keep the surface temperature of a capacitor below the upper limit of its rated operating temperature range. Be sure to take into account the heat generated by the capacitor itself (Please refer to the following column 3) and by peripheral components.

temperature and a heat from peripheral components are stable.

The self-generated heat should be measured under the conditions where the capacitor is subjected at an atmosphere temperature 25°C and is not affected by radiant heat from other components or wind from surroundings.

3. Self-generated Heat

When the capacitor is used in a high-frequency current, pulse current or similar current, it may have self-generated heat due to dielectric loss. In the case of "High Dielectric Constant Type Capacitors", applied voltage load should be such that self-generated heat is within 20 °C under the condition where the capacitor is subjected at an atmosphere temperature of 25 °C. Excessive heat may lead to deterioration of the capacitor's characteristics and reliability. Please contact us if self-generated heat occurs with "Temperature Compensating Type Capacitors".

When measuring, use a thermocouple of small thermal capacity -K of ø0.1mm.

Never attempt to perform measurement with the cooling fan running. Otherwise, accurate measurement cannot be ensured.

4. Measurement of Temperature

The surface temperature of capacitor should be measured under the condition where an atmosphere

5. Fail-Safe

Be sure to provide an appropriate fail-safe function on your product to prevent a second damage that may be caused by the abnormal function or the failure of our product.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHORT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

⚠Caution

⚠Caution (Soldering and Mounting)

1. Vibration and impact

Do not expose a capacitor or its leads to excessive shock or vibration during use.

2. Soldering

When soldering this product to a PCB/PWB, do not exceed the solder heat resistance specification of the capacitor. Subjecting this product to excessive heating could melt the internal junction solder and may result in thermal shocks that can crack the ceramic element.

3. Bonding, resin molding and coating

In case of bonding, molding or coating this product, verify that these processes do not affect the quality of the capacitor by testing the performance of the bonded, molded or coated product in the intended equipment.

In case the amount of application, dryness/hardening conditions of adhesives and molding resins

containing organic solvents (ethyl acetate, methyl ethyl ketone, toluene, etc.) are unsuitable, the outer coating resin of a capacitor may be damaged by the organic solvents and may result, worst case, in a short circuit.

The variation in thickness of adhesive or molding resin or coating may cause an outer coating resin cracking and/or ceramic element cracking of a capacitor in a temperature cycling.

4. Treatment after bonding, resin molding and coating

When the outer coating is hot (over 100 degrees centigrade) after soldering, it becomes soft and fragile, so please be careful not to give it mechanical stress.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHORT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

⚠Caution (Handling)

Vibration and impact

Do not expose a capacitor or its leads to excessive shock or vibration during use.

FAILURE TO FOLLOW THE ABOVE CAUTIONS MAY RESULT, WORST CASE, IN A SHORT CIRCUIT AND CAUSE FUMING OR PARTIAL DISPERSION WHEN THE PRODUCT IS USED.

Notice

Notice (Rating)

Capacitance change of capacitor

In case of X7R/X7S/X7T/X8L char.

Capacitors have an aging characteristic, whereby the capacitor continually decreases its capacitance slightly if the capacitor is left on for a long time. Moreover, capacitance might change greatly depending on the surrounding temperature or an applied voltage.

Notice (Soldering and Mounting)

1. Cleaning (ultrasonic cleaning)

To perform ultrasonic cleaning, observe the following conditions.

Rinse bath capacity: Output of 20 watts per liter or less.

Rinsing time: 5 min. maximum.

Do not vibrate the PCB/PWB directly.

Excessive ultrasonic cleaning may lead to fatigue destruction of the lead wires.

2. Soldering and Mounting

Insertion of the Lead Wire

- When soldering, insert the lead wire into the PCB without mechanically stressing the lead wire.
- Insert the lead wire into the PCB with a distance appropriate to the lead space.

Global Locations

For details please visit www.murata.com



⚠ Note

1 Export Control

For customers outside Japan:

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