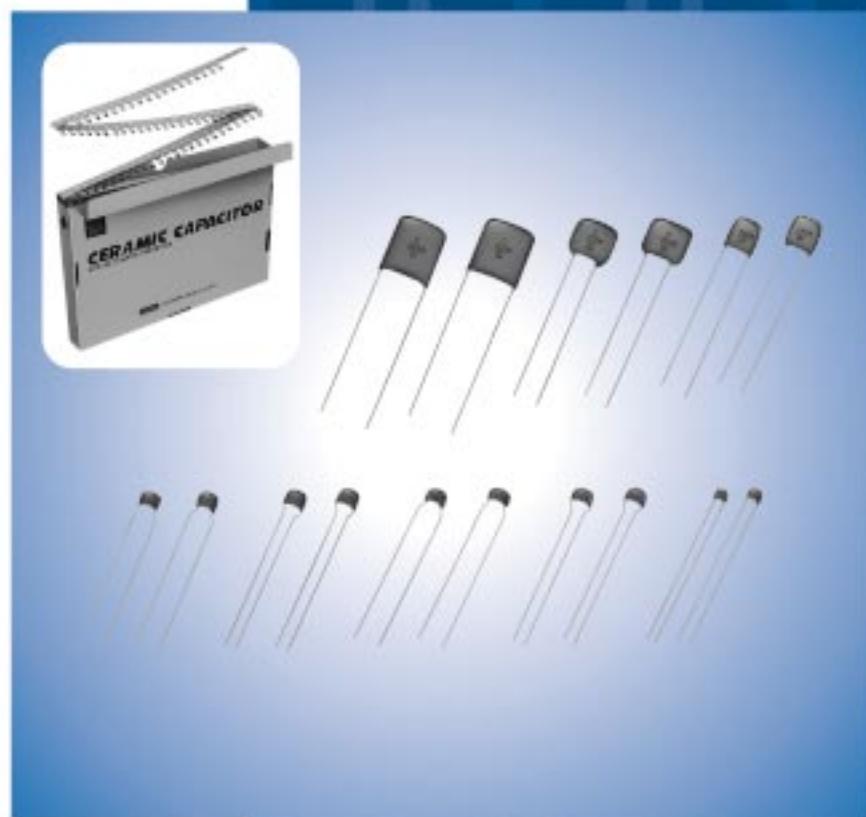


# Radial Lead Type Monolithic Ceramic Capacitors



**muRata** *Innovator  
in Electronics*  
Murata  
Manufacturing Co., Ltd.

## ● Part Numbering

### Radial Lead Type Monolithic Ceramic Capacitors

(Part Number)	RP	E	R7	1H	104	K	2	M1	A03	A
	1	2	3	4	5	6	7	8	9	10

① Product ID

② Series/Terminal

Product ID	Series/Terminal	
RP	E	Radial Lead Type Monolithic Ceramic Capacitors (DC25V-DC100V)
RH	E/D	Radial Lead Type Monolithic Ceramic Capacitors 150°C max. (for Automotive) (DC50V-DC100V)
RD	E	Radial Lead Type Monolithic Ceramic Capacitors (For Commercial Use Only) (DC25V-DC630V)

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
5G	X8G*	25°C	25 to 150°C	0±30ppm/°C	-55 to 150°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
F1	F	20°C	-25 to 85°C	+30, -80%	-25 to 85°C
F5	Y5V	25°C	-30 to 85°C	+22, -82%	-30 to 85°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

\* Please refer to table for Capacitance change under reference temperature.

• Capacitance change from each temperature

Char.	Nominal Values (ppm/°C) *1	Capacitance Change from 25°C (%)					
		-55°C		-30°C		-10°C	
		Max.	Min.	Max.	Min.	Max.	Min.
C0G	0±30	0.58	-0.24	0.40	-0.17	0.25	-0.11
X8G							

\*1: Nominal values denote the temperature coefficient within a range of 25 to 125°C.

## ④ Rated Voltage

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

## ⑤ Capacitance

Expressed by three-digit alphanumerics. 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.

## ⑥ Capacitance Tolerance

Code	Capacitance Tolerance	Temperature Characteristics	Capacitance Step
C	±0.25pF	C0G	≤5pF : 1pF Step
D	±0.5pF		6 to 9pF : 1pF Step
J	±5%	C0G/X8G	≥10 : E12 Series
K	±10%		X7S/X7T/X7R/X8L
M	±20%	X7S/X7T/X7R/X8L	E6 Series
Z	+80%, -20%		X7S/X7T/X7R/X8L
		F/Y5V	E3 Series
			E3 Series

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⑦ Dimensions (LxW)

Code	Dimensions (LxW)
<b>0</b>	4.0X3.5mm or 5.0X3.5mm (Depends on Part Number List)
<b>1</b>	4.0X3.5mm or 4.5X3.5mm or 5.0X3.5mm (Depends on Part Number List)
<b>2</b>	5.0X3.5mm or 5.5X4.0mm or 5.7X4.5mm (Depends on Part Number List)
<b>3</b>	5.0X4.5mm or 5.5X5.0mm or 6.0X5.5mm (Depends on Part Number List)
<b>5</b>	7.5X7.5mm*
<b>6</b>	10.0X10.0mm
<b>7</b>	12.5X12.5mm
<b>8</b>	7.5X5.5mm
<b>U</b>	7.7X12.5mm*
<b>W</b>	5.5X7.5mm

\* DC630V: W+0.5mm

⑧ Lead Style

Code	Lead Style	Lead Spacing
<b>A2</b>	Straight Long	2.5mm
<b>B1</b>	Straight Long	5.0mm
<b>C1</b>	Straight Long	10.0mm
<b>DB</b>	Straight Taping	2.5mm
<b>E1/E2</b>	Straight Taping	5.0mm
<b>K1</b>	Inside Crimp	5.0mm
<b>M1/M2</b>	Inside Crimp Taping	5.0mm
<b>P1</b>	Outside Crimp	2.5mm
<b>S1/S2</b>	Outside Crimp Taping	2.5mm

Lead distance between reference and bottom planes.

M1, S1:  $H_0 = 16.0 \pm 0.5\text{mm}$

M2, S2:  $H_0 = 20.0 \pm 0.5\text{mm}$

E1:  $H = 17.5 \pm 0.5\text{mm}$

E2:  $H = 20.0 \pm 0.5\text{mm}$

⑨ Individual Specification Code

Expressed by three-digit alphanumerics

⑩ Packaging

Code	Packaging
<b>A</b>	Ammo Pack
<b>B</b>	Bulk

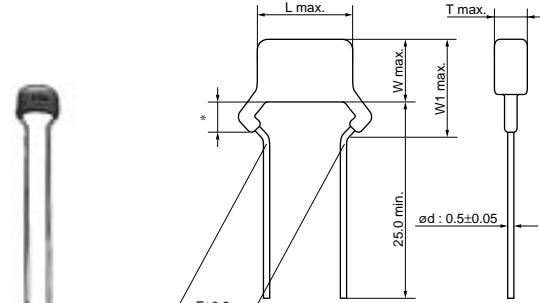
# Radial Lead Type Monolithic Ceramic Capacitors

**muRata**

## RPE Series (DC25V-DC100V)

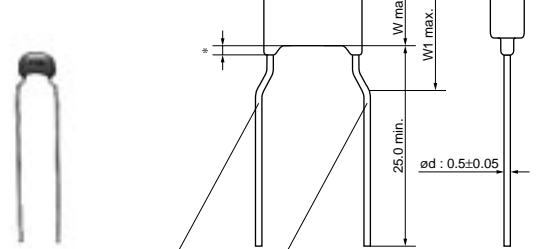
### ■ Features

1. The RPE series capacitors have small dimensions, large capacitance, and a capacity volume ratio of 10 micro F/cm cubed, close to that of electrolytic capacitors. They do not have polarity.
2. Excellent frequency characteristics and due to their small internal inductance are suitable for high frequencies.
3. Not coated with wax so there is no change in their exterior appearance due to the outflow of wax during soldering or solvent during cleansing.
4. They are highly nonflammable, having characteristics equivalent to the UL94V-0 standard.



Dimensions code: 2/3  
 Lead style code: P1

\* Coating extension does not exceed the end of the lead bend.  
 - Lead Wire : Solder Coated Copper Wire or  
 Solder Coated CP Wire (in mm)

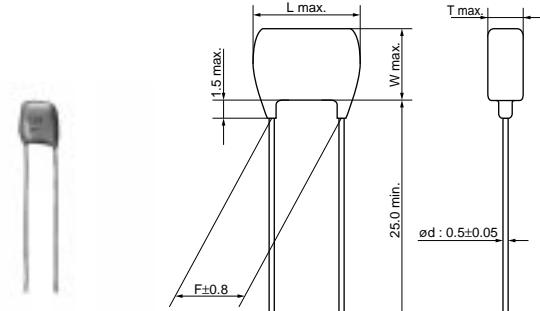


Dimensions code: 2/3/8  
 Lead style code: K1

\* Coating extension does not exceed the end of the lead bend.  
 - Lead Wire : Solder Coated Copper Wire or  
 Solder Coated CP Wire (in mm)

### ■ Dimensions

Dimensions and Lead Style Code	Dimensions (mm)					
	L	W	W1	T	F	d
<b>2P1/2S1/2S2</b>	5.0	3.5	5.0		2.5	0.5
<b>2K1/2M1/2M2</b>	5.0	3.5	5.0		5.0	0.5
<b>3P1/3S1/3S2</b>	5.0	4.5	6.3		2.5	0.5
<b>3K1/3M1/3M2</b>	5.0	4.5	6.3		5.0	0.5
<b>5B1/5E1/5E2</b>	7.5	7.5	-		5.0	0.5
<b>6B1/6E1/6E2</b>	10.0	10.0	-		5.0	0.5
<b>7C1</b>	12.5	12.5	-		10.0	0.5
<b>8K1/8M1/8M2</b>	7.5	5.5	8.0		5.0	0.5



Dimensions code: 5/6/7  
 Lead style code: B1/C1

- Lead Wire : Solder Coated Copper Wire or  
 Solder Coated CP Wire

(in mm)

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## ■ Marking

Dimensions Code	Type	Temperature Compensating Type	High Dielectric Constant Type	
	Temp. Char.	C0G	X7R	Y5V
2	Individual Specification Code A□□ B□□ Z□□	 Marked on both sides		
	Individual Specification Code Except A□□ B□□ Z□□			
3, 8	—	—		—
5, 6, 7	—	—		—
Temperature Characteristics	Marked with code (C0G char.: A, X7R char.: C, Y5V char.: F) 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			
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, C0G Characteristics

Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance (pF)	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPE5C1H1R0C2□□B03□	C0G	50	1.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H1R0C2□□B03□	C0G	50	1.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H2R0C2□□B03□	C0G	50	2.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H2R0C2□□B03□	C0G	50	2.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H3R0C2□□B03□	C0G	50	3.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H3R0C2□□B03□	C0G	50	3.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H4R0C2□□B03□	C0G	50	4.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H4R0C2□□B03□	C0G	50	4.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H5R0C2□□B03□	C0G	50	5.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H5R0C2□□B03□	C0G	50	5.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H6R0D2□□B03□	C0G	50	6.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H6R0D2□□B03□	C0G	50	6.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H7R0D2□□Z03□	C0G	50	7.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H7R0D2□□Z03□	C0G	50	7.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H8R0D2□□Z03□	C0G	50	8.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H8R0D2□□Z03□	C0G	50	8.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H9R0D2□□Z03□	C0G	50	9.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H9R0D2□□Z03□	C0G	50	9.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H100J2□□Z03□	C0G	50	10 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H100J2□□Z03□	C0G	50	10 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H120J2□□Z03□	C0G	50	12 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H120J2□□Z03□	C0G	50	12 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H150J2□□Z03□	C0G	50	15 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H150J2□□Z03□	C0G	50	15 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H180J2□□Z03□	C0G	50	18 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H180J2□□Z03□	C0G	50	18 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H220J2□□Z03□	C0G	50	22 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H220J2□□Z03□	C0G	50	22 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H270J2□□Z03□	C0G	50	27 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H270J2□□Z03□	C0G	50	27 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H330J2□□Z03□	C0G	50	33 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H330J2□□Z03□	C0G	50	33 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H390J2□□Z03□	C0G	50	39 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H390J2□□Z03□	C0G	50	39 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H470J2□□Z03□	C0G	50	47 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H470J2□□Z03□	C0G	50	47 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H560J2□□Z03□	C0G	50	56 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H560J2□□Z03□	C0G	50	56 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H680J2□□Z03□	C0G	50	68 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H680J2□□Z03□	C0G	50	68 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H820J2□□Z03□	C0G	50	82 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H820J2□□Z03□	C0G	50	82 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H101J2□□A03□	C0G	50	100 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H101J2□□A03□	C0G	50	100 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H121J2□□A03□	C0G	50	120 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H121J2□□A03□	C0G	50	120 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H151J2□□A03□	C0G	50	150 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H151J2□□A03□	C0G	50	150 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H181J2□□A03□	C0G	50	180 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H181J2□□A03□	C0G	50	180 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H221J2□□A03□	C0G	50	220 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H221J2□□A03□	C0G	50	220 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H271J2□□A03□	C0G	50	270 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H271J2□□A03□	C0G	50	270 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2

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Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance (pF)	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPE5C1H331J2□□A03□	C0G	50	330 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H331J2□□A03□	C0G	50	330 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H391J2□□A03□	C0G	50	390 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H391J2□□A03□	C0G	50	390 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H471J2□□A03□	C0G	50	470 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H471J2□□A03□	C0G	50	470 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H561J2□□A03□	C0G	50	560 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H561J2□□A03□	C0G	50	560 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H681J2□□A03□	C0G	50	680 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H681J2□□A03□	C0G	50	680 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H821J2□□A03□	C0G	50	820 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H821J2□□A03□	C0G	50	820 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H102J2□□A03□	C0G	50	1000 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C1H102J2□□A03□	C0G	50	1000 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C1H122J2□□A03□	C0G	50	1200 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H122J2□□A03□	C0G	50	1200 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H152J2□□A03□	C0G	50	1500 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H152J2□□A03□	C0G	50	1500 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H182J2□□C03□	C0G	50	1800 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H182J2□□A03□	C0G	50	1800 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H222J2□□C03□	C0G	50	2200 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H222J2□□A03□	C0G	50	2200 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H272J2□□C03□	C0G	50	2700 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H272J2□□A03□	C0G	50	2700 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H332J2□□C03□	C0G	50	3300 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H332J2□□A03□	C0G	50	3300 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H392J2□□C03□	C0G	50	3900 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H392J2□□A03□	C0G	50	3900 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H472J2□□C03□	C0G	50	4700 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H472J2□□A03□	C0G	50	4700 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H562J2□□C03□	C0G	50	5600 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C1H682J2□□C03□	C0G	50	6800 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H822J2□□C03□	C0G	50	8200 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C1H103J2□□C03□	C0G	50	10000 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C2A1R0C2□□B03□	C0G	100	1.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A1R0C2□□B03□	C0G	100	1.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A2R0C2□□B03□	C0G	100	2.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A2R0C2□□B03□	C0G	100	2.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A3R0C2□□B03□	C0G	100	3.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A3R0C2□□B03□	C0G	100	3.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A4R0C2□□B03□	C0G	100	4.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A4R0C2□□B03□	C0G	100	4.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A5R0C2□□B03□	C0G	100	5.0 ±0.25pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A5R0C2□□B03□	C0G	100	5.0 ±0.25pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A6R0D2□□B03□	C0G	100	6.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A6R0D2□□B03□	C0G	100	6.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A7R0D2□□Z03□	C0G	100	7.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A7R0D2□□Z03□	C0G	100	7.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A8R0D2□□Z03□	C0G	100	8.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A8R0D2□□Z03□	C0G	100	8.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A9R0D2□□Z03□	C0G	100	9.0 ±0.5pF	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A9R0D2□□Z03□	C0G	100	9.0 ±0.5pF	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A100J2□□Z03□	C0G	100	10 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A100J2□□Z03□	C0G	100	10 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A120J2□□Z03□	C0G	100	12 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A120J2□□Z03□	C0G	100	12 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2

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Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance (pF)	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPE5C2A150J2□□Z03□	C0G	100	15 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A150J2□□Z03□	C0G	100	15 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A180J2□□Z03□	C0G	100	18 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A180J2□□Z03□	C0G	100	18 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A220J2□□Z03□	C0G	100	22 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A220J2□□Z03□	C0G	100	22 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A270J2□□Z03□	C0G	100	27 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A270J2□□Z03□	C0G	100	27 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A330J2□□Z03□	C0G	100	33 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A330J2□□Z03□	C0G	100	33 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A390J2□□Z03□	C0G	100	39 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A390J2□□Z03□	C0G	100	39 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A470J2□□Z03□	C0G	100	47 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A470J2□□Z03□	C0G	100	47 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A560J2□□Z03□	C0G	100	56 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A560J2□□Z03□	C0G	100	56 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A680J2□□Z03□	C0G	100	68 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A680J2□□Z03□	C0G	100	68 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A820J2□□Z03□	C0G	100	82 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A820J2□□Z03□	C0G	100	82 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A101J2□□A03□	C0G	100	100 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A101J2□□A03□	C0G	100	100 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A121J2□□A03□	C0G	100	120 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A121J2□□A03□	C0G	100	120 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A151J2□□A03□	C0G	100	150 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A151J2□□A03□	C0G	100	150 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A181J2□□A03□	C0G	100	180 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A181J2□□A03□	C0G	100	180 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A221J2□□A03□	C0G	100	220 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A221J2□□A03□	C0G	100	220 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A271J2□□A03□	C0G	100	270 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A271J2□□A03□	C0G	100	270 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A331J2□□A03□	C0G	100	330 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A331J2□□A03□	C0G	100	330 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A391J2□□A03□	C0G	100	390 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A391J2□□A03□	C0G	100	390 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A471J2□□A03□	C0G	100	470 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A471J2□□A03□	C0G	100	470 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A561J2□□A03□	C0G	100	560 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A561J2□□A03□	C0G	100	560 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A681J2□□A03□	C0G	100	680 ±5%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPE5C2A681J2□□A03□	C0G	100	680 ±5%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPE5C2A821J2□□A03□	C0G	100	820 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C2A821J2□□A03□	C0G	100	820 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C2A102J2□□A03□	C0G	100	1000 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C2A102J2□□A03□	C0G	100	1000 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C2A122J2□□A03□	C0G	100	1200 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C2A122J2□□A03□	C0G	100	1200 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPE5C2A152J2□□A03□	C0G	100	1500 ±5%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPE5C2A152J2□□A03□	C0G	100	1500 ±5%	5.0 x 3.5	3.15	5.0	K1	M1	M2

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 Characteristics

Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPER71E474K2□□A03□	X7R	25	0.47μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71E684K2□□C03□	X7R	25	0.68μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71E105K2□□C03□	X7R	25	1.0μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71E155K3□□C07□	X7R	25	1.5μF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER71E225K3□□C07□	X7R	25	2.2μF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER71H221K2□□A03□	X7R	50	220pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H221K2□□A03□	X7R	50	220pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H331K2□□A03□	X7R	50	330pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H331K2□□A03□	X7R	50	330pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H471K2□□A03□	X7R	50	470pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H471K2□□A03□	X7R	50	470pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H681K2□□A03□	X7R	50	680pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H681K2□□A03□	X7R	50	680pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H102K2□□A03□	X7R	50	1000pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H102K2□□A03□	X7R	50	1000pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H152K2□□A03□	X7R	50	1500pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H152K2□□A03□	X7R	50	1500pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H222K2□□A03□	X7R	50	2200pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H222K2□□A03□	X7R	50	2200pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H332K2□□A03□	X7R	50	3300pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H332K2□□A03□	X7R	50	3300pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H472K2□□A03□	X7R	50	4700pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H472K2□□A03□	X7R	50	4700pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H682K2□□A03□	X7R	50	6800pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H682K2□□A03□	X7R	50	6800pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H103K2□□A03□	X7R	50	10000pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H103K2□□A03□	X7R	50	10000pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H153K2□□A03□	X7R	50	15000pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H153K2□□A03□	X7R	50	15000pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H223K2□□A03□	X7R	50	22000pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H223K2□□A03□	X7R	50	22000pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H333K2□□A03□	X7R	50	33000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H333K2□□A03□	X7R	50	33000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H473K2□□A03□	X7R	50	47000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H473K2□□A03□	X7R	50	47000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H683K2□□A03□	X7R	50	68000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H683K2□□A03□	X7R	50	68000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H104K2□□A03□	X7R	50	0.10μF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H104K2□□A03□	X7R	50	0.10μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H154K2□□C03□	X7R	50	0.15μF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H154K2□□C03□	X7R	50	0.15μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H224K2□□C03□	X7R	50	0.22μF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H224K2□□C03□	X7R	50	0.22μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H334K2□□C03□	X7R	50	0.33μF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER71H334K2□□C03□	X7R	50	0.33μF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER71H474K2□□C03□	X7R	50	0.47μF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER71H474K2□□C03□	X7R	50	0.47μF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER71H684K3□□C03□	X7R	50	0.68μF ±10%	5.0 x 4.5	3.15	2.5	P1	S1	S2
RPER71H684K3□□C03□	X7R	50	0.68μF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER71H105K3□□C07□	X7R	50	1.0μF ±10%	5.0 x 4.5	3.15	2.5	P1	S1	S2
RPER71H105K3□□C07□	X7R	50	1.0μF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER71H155K8□□C03□	X7R	50	1.5μF ±10%	7.5 x 5.5	4.0	5.0	K1	M1	M2
RPER71H225K8□□C03□	X7R	50	2.2μF ±10%	7.5 x 5.5	4.0	5.0	K1	M1	M2
RPER71H335K5□□C03□	X7R	50	3.3μF ±10%	7.5 x 7.5	5.0	5.0	B1	E1	E2

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Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPER71H475K5□□C03□	X7R	50	4.7μF ±10%	7.5 x 7.5	4.0	5.0	B1	E1	E2
RPER72A221K2□□B03□	X7R	100	220pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A221K2□□B03□	X7R	100	220pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A331K2□□B03□	X7R	100	330pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A331K2□□B03□	X7R	100	330pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A471K2□□B03□	X7R	100	470pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A471K2□□B03□	X7R	100	470pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A681K2□□B03□	X7R	100	680pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A681K2□□B03□	X7R	100	680pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A102K2□□A03□	X7R	100	1000pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A102K2□□A03□	X7R	100	1000pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A152K2□□A03□	X7R	100	1500pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A152K2□□A03□	X7R	100	1500pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A222K2□□A03□	X7R	100	2200pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A222K2□□A03□	X7R	100	2200pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A332K2□□A03□	X7R	100	3300pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A332K2□□A03□	X7R	100	3300pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A472K2□□A03□	X7R	100	4700pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A472K2□□A03□	X7R	100	4700pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A682K2□□A03□	X7R	100	6800pF ±10%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPER72A682K2□□A03□	X7R	100	6800pF ±10%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPER72A103K2□□A03□	X7R	100	10000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER72A103K2□□A03□	X7R	100	10000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER72A153K2□□A03□	X7R	100	15000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER72A153K2□□A03□	X7R	100	15000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER72A223K2□□A03□	X7R	100	22000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER72A223K2□□A03□	X7R	100	22000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER72A333K2□□C03□	X7R	100	33000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER72A333K2□□C03□	X7R	100	33000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER72A473K2□□C03□	X7R	100	47000pF ±10%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPER72A473K2□□C03□	X7R	100	47000pF ±10%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPER72A683K3□□C07□	X7R	100	68000pF ±10%	5.0 x 4.5	3.15	2.5	P1	S1	S2
RPER72A683K3□□C07□	X7R	100	68000pF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER72A104K3□□C07□	X7R	100	0.10μF ±10%	5.0 x 4.5	3.15	2.5	P1	S1	S2
RPER72A104K3□□C07□	X7R	100	0.10μF ±10%	5.0 x 4.5	3.15	5.0	K1	M1	M2
RPER72A154K8□□C03□	X7R	100	0.15μF ±10%	7.5 x 5.5	4.0	5.0	K1	M1	M2
RPER72A224K8□□C03□	X7R	100	0.22μF ±10%	7.5 x 5.5	4.0	5.0	K1	M1	M2
RPER72A334K5□□C03□	X7R	100	0.33μF ±10%	7.5 x 7.5	4.0	5.0	B1	E1	E2
RPER72A474K8□□C03□	X7R	100	0.47μF ±10%	7.5 x 5.5	4.0	5.0	K1	M1	M2
RPER72A684K6□□F14□	X7R	100	0.68μF ±10%	10.0 x 10.0	4.0	5.0	B1	E1	E2
RPER72A105K5□□C03□	X7R	100	1.0μF ±10%	7.5 x 7.5	4.0	5.0	B1	E1	E2
RPER72A155K7□□F03□	X7R	100	1.5μF ±10%	12.5 x 12.5	5.0	10.0	C1	-	-
RPER72A225K7□□F03□	X7R	100	2.2μF ±10%	12.5 x 12.5	5.0	10.0	C1	-	-

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, Y5V Characteristics

Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPEF51H102Z2□□A03□	Y5V	50	1000pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H102Z2□□A03□	Y5V	50	1000pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H222Z2□□A03□	Y5V	50	2200pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H222Z2□□A03□	Y5V	50	2200pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H472Z2□□A03□	Y5V	50	4700pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H472Z2□□A03□	Y5V	50	4700pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2

Continued on the following page. 

Continued from the preceding page.

Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPEF51H103Z2□□A03□	Y5V	50	10000pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H103Z2□□A03□	Y5V	50	10000pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H223Z2□□A03□	Y5V	50	22000pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H223Z2□□A03□	Y5V	50	22000pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H473Z2□□A03□	Y5V	50	47000pF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H473Z2□□A03□	Y5V	50	47000pF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H104Z2□□A03□	Y5V	50	0.10µF +80/-20%	5.0 x 3.5	2.5	2.5	P1	S1	S2
RPEF51H104Z2□□A03□	Y5V	50	0.10µF +80/-20%	5.0 x 3.5	2.5	5.0	K1	M1	M2
RPEF51H224Z2□□A03□	Y5V	50	0.22µF +80/-20%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPEF51H224Z2□□A03□	Y5V	50	0.22µF +80/-20%	5.0 x 3.5	3.15	5.0	K1	M1	M2
RPEF51H474Z2□□C03□	Y5V	50	0.47µF +80/-20%	5.0 x 3.5	3.15	2.5	P1	S1	S2
RPEF51H474Z2□□C03□	Y5V	50	0.47µF +80/-20%	5.0 x 3.5	3.15	5.0	K1	M1	M2

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)

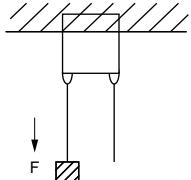
## Specifications and Test Methods

No.	Item	Specifications		Test Method										
		Temperature Compensating Type	High Dielectric Constant Type											
1	Operating Temperature Range	-55 to +125°C	Char. X7R : -55 to +125°C Char. Y5V : -30 to +85°C	—										
2	Rated Voltage	See previous pages		The rated voltage is defined as the maximum voltage that may be applied continuously to the capacitor. When AC voltage is superimposed on DC voltage, $V_{P-P}$ or $V_{0-P}$ , whichever is larger, should be maintained within the rated voltage range.										
3	Appearance	No defects or abnormalities		Visual inspection										
4	Dimension and Marking	See previous pages		Visual inspection, Vernier Caliper										
5	Dielectric Strength	Between Terminals	No defects or abnormalities	The capacitors should not be damaged when DC voltages of 300%* of the rated voltage are applied between the terminals for 1 to 5 sec. (Charge/Discharge current $\leq 50\text{mA}$ ) *250% for char. X7R, Y5V										
		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, and 250% of the rated DC voltage is impressed for 1 to 5 sec. between capacitor terminals and metal balls. (Charge/Discharge current $\leq 50\text{mA}$ )										
6	Insulation Resistance	Between Terminals	$C \leq 0.047\mu\text{F}$ : $10,000\text{M}\Omega$ min. $C > 0.047\mu\text{F}$ : $500\text{M}\Omega \cdot \mu\text{F}$ min. C : Nominal capacitance	The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at normal temperature and humidity and within 2 min. of charging. (Charge/Discharge current $\leq 50\text{mA}$ )										
7	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.										
8	Q/Dissipation Factor (D.F.)	30pF min. : $Q \geq 1,000$ 30pF max. : $Q \geq 400+20C$ C : Nominal capacitance (pF)	Char. X7R : 0.025 max. Char. Y5V : 0.05 max.	<table border="1"> <tr> <td>Capacitance Item</td> <td>1000pF and below</td> <td>more than 1000pF</td> </tr> <tr> <td>Frequency</td> <td><math>1\pm 0.1\text{MHz}</math></td> <td><math>1\pm 0.1\text{kHz}</math></td> </tr> <tr> <td>Voltage</td> <td>AC0.5 to 5V (r.m.s.)</td> <td>AC1<math>\pm 0.2\text{V}</math> (r.m.s.)</td> </tr> </table>	Capacitance Item	1000pF and below	more than 1000pF	Frequency	$1\pm 0.1\text{MHz}$	$1\pm 0.1\text{kHz}$	Voltage	AC0.5 to 5V (r.m.s.)	AC1 $\pm 0.2\text{V}$ (r.m.s.)	
Capacitance Item	1000pF and below	more than 1000pF												
Frequency	$1\pm 0.1\text{MHz}$	$1\pm 0.1\text{kHz}$												
Voltage	AC0.5 to 5V (r.m.s.)	AC1 $\pm 0.2\text{V}$ (r.m.s.)												
9	Capacitance Temperature Characteristics	Capacitance Change	Within the specified tolerance (Table A on last column)	The capacitance change should be measured after 5 min. at each specified temperature stage. (1) Temperature Compensating Type 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 as shown in Table A. The capacitance drift is calculated by dividing the differences between the maximum and minimum measured values in step 1, 3 and 5 by the cap. value in step 3.										
		Temperature Coefficient	Within the specified tolerance (Table A on last column)	<table border="1"> <tr> <td>Step</td> <td>Temperature (°C)</td> </tr> <tr> <td>1</td> <td><math>25\pm 2</math></td> </tr> <tr> <td>2</td> <td><math>-55\pm 3</math></td> </tr> <tr> <td>3</td> <td><math>25\pm 2</math></td> </tr> <tr> <td>4</td> <td><math>125\pm 3</math></td> </tr> <tr> <td>5</td> <td><math>25\pm 2</math></td> </tr> </table>	Step	Temperature (°C)	1	$25\pm 2$	2	$-55\pm 3$	3	$25\pm 2$	4	$125\pm 3$
Step	Temperature (°C)													
1	$25\pm 2$													
2	$-55\pm 3$													
3	$25\pm 2$													
4	$125\pm 3$													
5	$25\pm 2$													
Capacitance Drift	Within $\pm 0.2\%$ or $\pm 0.05\text{pF}$ , whichever is larger	(2) High Dielectric Constant Type The ranges of capacitance change compared with the 25°C value over the temperature ranges as shown in Table B should be within the specified ranges.												

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	
10	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 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.
11	Vibration Resistance	Appearance	No defects or abnormalities	
		Capacitance	Within the specified tolerance	
		Q/D.F.	30pF min. : $Q \geq 1,000$ 30pF max. : $Q \geq 400+20C$ C : Nominal capacitance (pF)	Char. X7R : 0.025 max. Char. Y5V : 0.05 max.
12	Solderability of Leads	Lead wire should be soldered with uniform coating on the axial direction over 3/4 of the circumferential direction.		
13	Resistance to Soldering Heat	Appearance	No defects or abnormalities	
		Capacitance Change	Within ±2.5% or ±0.25pF (whichever is larger)	Char. X7R : Within ±7.5% Char. Y5V : Within ±20%
		Dielectric Strength (Between Terminals)	No defects	
14	Temperature and Immersion Cycle	Appearance	No defects or abnormalities	
		Capacitance Change	Within ±5% or ±0.5pF (whichever is larger)	Char. X7R : Within ±12.5% Char. Y5V : Within ±30%
		Q/D.F.	30pF min. : $Q \geq 350$ 10pF to 30pF : $Q \geq 275+5C/2$ 10pF max. : $Q \geq 200+10C$ C : Nominal capacitance (pF)	Char. X7R : 0.05 max. Char. Y5V : 0.075 max.
		Insulation Resistance	1.000MΩ or 50MΩ • μF min. (whichever is smaller)	
		Dielectric Strength (Between Terminals)	No defects or abnormalities	

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			
15	Humidity (Steady State)	Appearance	No defects or abnormalities				
		Capacitance Change	Within $\pm 5\%$ or $\pm 0.5\text{pF}$ (whichever is larger)		Char. X7R : Within $\pm 12.5\%$ Char. Y5V : Within $\pm 30\%$	Set the capacitor for $500 \pm 24$ hrs. at $40 \pm 2^\circ\text{C}$ in 90 to 95% humidity. Remove and set for $24 \pm 2$ hrs. (temperature compensating type) and $48 \pm 4$ hrs. (high dielectric constant type) at room temperature, then measure.	
		Q/D.F.	30pF min. : $Q \geq 350$ 10pF to 30pF : $Q \geq 275+5C/2$ 10pF max. : $Q \geq 200+10C$ C : Nominal capacitance (pF)		Char. X7R : 0.05 max. Char. Y5V : 0.075 max.		
		Insulation Resistance	1,000M $\Omega$ or $50\text{M}\Omega \cdot \mu\text{F}$ min. (whichever is smaller)				
16	Humidity Load	Appearance	No defects or abnormalities				
		Capacitance Change	Within $\pm 7.5\%$ or $\pm 0.75\text{pF}$ (whichever is larger)		Char. X7R : Within $\pm 12.5\%$ Char. Y5V : Within $\pm 30\%$	Apply the rated voltage for $500 \pm 24$ hrs. at $40 \pm 2^\circ\text{C}$ and in 90 to 95% humidity. Remove and set for $24 \pm 2$ hrs. (temperature compensating type) and $48 \pm 4$ hrs. (high dielectric constant type) at room temperature, then measure. (Charge/Discharge current $\leq 50\text{mA}$ )	
		Q/D.F.	30pF min. : $Q \geq 200$ 30pF max. : $Q \geq 100+10C/3$ C : Nominal capacitance (pF)		Char. X7R : 0.05 max. Char. Y5V : 0.075 max.		
		Insulation Resistance	500M $\Omega$ or $25\text{M}\Omega \cdot \mu\text{F}$ min. (whichever is smaller)				
17	High Temperature Load	Appearance	No defects or abnormalities			Apply 200% of the rated voltage for $1000 \pm 48$ hrs. at the maximum operating temperature. Remove and set for $24 \pm 2$ hrs. (temperature compensating type) and $48 \pm 4$ hrs. (high dielectric constant type) at room temperature, then measure. (Charge/Discharge current $\leq 50\text{mA}$ )  • Initial measurement for high dielectric constant type A voltage treatment should be given to the capacitor in which a DC voltage of 200% of the rated voltage is applied for 1 hr. at the maximum operating temperature $\pm 3^\circ\text{C}$ . Then set for $48 \pm 4$ hrs. at room temperature and conduct initial measurement.	
		Capacitance Change	Within $\pm 3\%$ or $\pm 0.3\text{pF}$ (whichever is larger)		Char. X7R : Within $\pm 12.5\%$ Char. Y5V : Within $\pm 30\%$		
		Q/D.F.	30pF min. : $Q \geq 350$ 10pF to 30pF : $Q \geq 275+5C/2$ 10pF max. : $Q \geq 200+10C$ C : Nominal capacitance (pF)		Char. X7R : 0.04 max. Char. Y5V : 0.075 max.		
		Insulation Resistance	1,000M $\Omega$ or $50\text{M}\Omega \cdot \mu\text{F}$ min. (whichever is smaller)				
18	Solvent Resistance	Appearance	No defects or abnormalities				
		Marking	Legible				

Table A

Char.	Nominal Values (ppm/ $^\circ\text{C}$ ) *1	Capacitance Change from $25^\circ\text{C}$ (%)					
		-55°C		-30°C		-10°C	
		Max.	Min.	Max.	Min.	Max.	Min.
<b>C0G</b>	<b>0<math>\pm</math>30</b>	0.58	-0.24	0.40	-0.17	0.25	-0.11

\*1: Nominal values denote the temperature coefficient within a range of 25 to  $125^\circ\text{C}$

Table B

Char.	Temp. Range	Reference Temp.	Cap. Change Rate
X7R	-55 to $+125^\circ\text{C}$	25°C	Within $\pm 15\%$
Y5V			Within $\pm 22\%$

# Radial Lead Type Monolithic Ceramic Capacitors

**muRata**

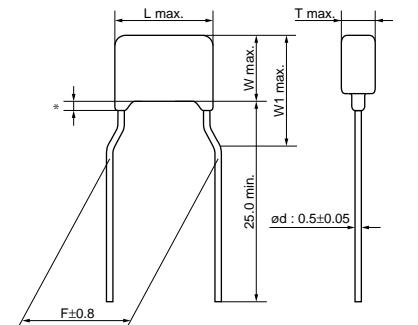
## RPE Series Small Size, Large Capacitance (DC50V)

### ■ Features

1. The RPE series capacitors have small dimensions, large capacitance, and a capacity volume ratio of 10 micro F/cm cubed, close to that of electrolytic capacitors. They do not have polarity.
2. Excellent frequency characteristics and due to their small internal inductance are suitable for high frequencies.
3. They are not coated with wax so there is no change in their exterior appearance due to the outflow of wax during soldering or solvent during cleansing.
4. They are highly nonflammable, having characteristics equivalent to the UL94V-0 standard.
5. We design capacitors in much more compact size than current RPE Series, having reduced the diameter by 70% max.



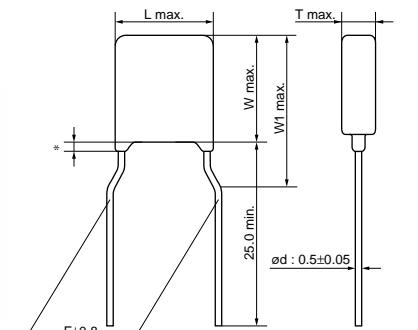
Dimensions code: 2/3  
Lead style code: K1



\* Coating extension does not exceed the end of the lead bend.  
 - Lead Wire : Solder Coated Copper Wire or  
 Solder Coated CP Wire (in mm)



Dimensions code: W  
Lead style code: K1



\* Coating extension does not exceed the end of the lead bend.  
 - Lead Wire : Solder Coated Copper Wire or  
 Solder Coated CP Wire (in mm)

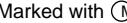
### ■ Dimensions

Dimensions and Lead Style Code	Dimensions (mm)					
	L	W	W1	T	F	d
<b>2K1/2M1</b>	5.5	4.0	6.0	Depends on Part Number List	5.0	0.5
<b>3K1/3M1</b>	5.5	5.0	7.5		5.0	0.5
<b>WK1/WM1</b>	5.5	7.5	10.0		5.0	0.5

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## ■ Marking

Dimensions Code	Rated Voltage	DC50V
	Temp. Char.	X7R
2		
3		
W		
Temperature Characteristics	Marked with code (X7R char.: C)	
Nominal Capacitance	Marked with 3 figures	
Capacitance Tolerance	Marked with code	
Rated Voltage	Marked with code (DC50V: 5)	
Manufacturer's Identification	Marked with 	

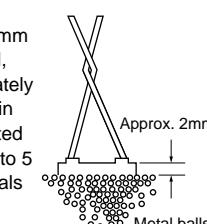
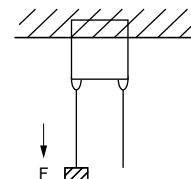
## High Dielectric Constant Type, X7R Characteristics

Part Number	Temp. Char.	Rated Voltage (Vdc)	Capacitance (μF)	Dimensions LxW (mm)	Dimension T (mm)	Lead Space F (mm)	Lead Style Code Bulk	Lead Style Code Taping (1)	Lead Style Code Taping (2)
RPER71H105K2□□C60□	X7R	50	1.0 ±10%	5.5 x 4.0	3.15	5.0	K1	M1	-
RPER71H155K2□□C60□	X7R	50	1.5 ±10%	5.5 x 4.0	3.15	5.0	K1	M1	-
RPER71H225K2□□C60□	X7R	50	2.2 ±10%	5.5 x 4.0	3.15	5.0	K1	M1	-
RPER71H335K3□□C60□	X7R	50	3.3 ±10%	5.5 x 5.0	4.0	5.0	K1	M1	-
RPER71H475K3□□C60□	X7R	50	4.7 ±10%	5.5 x 5.0	4.0	5.0	K1	M1	-
RPER71H106MW□□C60□	X7R	50	10 ±20%	5.5 x 7.5	4.0	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.	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	Between Terminals	No defects or abnormalities	The capacitor should not be damaged when DC voltage of 250% of the rated voltage is applied between the terminations for 1 to 5 sec. (Charge/Discharge current $\leq$ 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 as shown in the figure, and 250% of the rated DC voltage is impressed for 1 to 5 sec. between capacitor terminals and metal balls.  (Charge/Discharge current $\leq$ 50mA)									
5	Insulation Resistance	Between Terminals	500MΩ · μF min. The insulation resistance should be measured with a DC voltage not exceeding the rated voltage at normal temperature and humidity and within 2 min. of charging. (Charge/Discharge current $\leq$ 50mA)									
6	Capacitance	Within the specified tolerance	The capacitance/D.F. should be measured at the frequency of $1\pm0.1\text{kHz}$ and a voltage of $\text{AC}1\pm0.2\text{V(r.m.s.)}$									
7	Dissipation Factor (D.F.)	0.025 max.										
8	Capacitance Temperature Characteristics	Within $\pm 15\%$	The capacitance change should be measured after 5 min. at each specified temperature stage.									
			<table border="1"> <thead> <tr> <th>Step</th><th>Temperature (°C)</th></tr> </thead> <tbody> <tr> <td>1</td><td><math>25\pm 2</math></td></tr> <tr> <td>2</td><td><math>-55\pm 3</math></td></tr> <tr> <td>3</td><td><math>25\pm 2</math></td></tr> <tr> <td>4</td><td><math>125\pm 3</math></td></tr> <tr> <td>5</td><td><math>25\pm 2</math></td></tr> </tbody> </table>	Step	Temperature (°C)	1	$25\pm 2$	2	$-55\pm 3$	3	$25\pm 2$	4
Step	Temperature (°C)											
1	$25\pm 2$											
2	$-55\pm 3$											
3	$25\pm 2$											
4	$125\pm 3$											
5	$25\pm 2$											
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 $10\pm 1$ sec. 									
		Bending Strength	Termination not to be broken or loosened Each lead wire should be subjected to a force of 2.5N and then 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.									
10	Vibration Resistance	Appearance	No defects or abnormalities									
		Capacitance	Within the specified tolerance									
		D.F.	0.025 max.									

Continued on the following page. 

## 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 $2\pm0.5$ sec. In both cases the depth of dipping is up to about 1.5 to 2mm from the terminal body. Temp. of solder: $245\pm5^\circ\text{C}$ Lead Free Solder (Sn-3.0Ag-0.5Cu) $235\pm5^\circ\text{C}$ H60A or H63A Eutectic Solder
12	Resistance to Soldering Heat	Appearance	No defects or abnormalities
		Capacitance Change	Within $\pm7.5\%$
		Dielectric Strength (Between Terminals)	No defects
13	Temperature Cycle	Appearance	No defects or abnormalities
		Capacitance Change	Within $\pm12.5\%$
		D.F.	0.05 max.
		Insulation Resistance	$50\text{M}\Omega \cdot \mu\text{F}$ min.
		Dielectric Strength (Between Terminals)	No defects or abnormalities
14	Humidity (Steady State)	Appearance	No defects or abnormalities
		Capacitance Change	Within $\pm12.5\%$
		D.F.	0.05 max.
		Insulation Resistance	$50\text{M}\Omega \cdot \mu\text{F}$ min.
15	Humidity Load	Appearance	No defects or abnormalities
		Capacitance Change	Within $\pm12.5\%$
		D.F.	0.05 max.
		Insulation Resistance	$50\text{M}\Omega \cdot \mu\text{F}$ min.
16	High Temperature Load	Appearance	No defects or abnormalities
		Capacitance Change	Within $\pm12.5\%$
		D.F.	0.04 max.
		Insulation Resistance	$50\text{M}\Omega \cdot \mu\text{F}$ min.
17	Solvent Resistance	Appearance	No defects or abnormalities
		Marking	Legible

# Mouser Electronics

Authorized Distributor

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Murata:

[RPER71H224K2M2C03A](#) [RPE5C2A1R0C1A1D02B](#) [RPE5C2A122J2M1D03A](#) [RPER71H154K2M2C03A](#)  
[RPER72A333K2P1C03B](#) [RPE5C2A222J2S1D03A](#) [RPE5C2A1R2C1A1D02B](#) [RPER72A333K2M1C03A](#)  
[RPER71H184K2M2C03A](#) [RPER72A182K1A1D02B](#) [RPE5C2A102J2S2Y03A](#) [RPER72A821K1A1D02B](#)  
[RPE5C1H182J1A1D02B](#) [RPE5C1H3R0C1A1D02B](#) [RPER72A333K2S2C03A](#) [RPER71H271K1A1D02B](#)  
[RPE6R1H100J1A1D02B](#) [RPE5C2A222J2S2D03A](#) [RPE5C1H182J2K1Y03B](#) [RPE5C1H152J2S2Y03A](#)  
[RPER71H224K2S2C03A](#) [RPE5C1H123J4M2F03A](#) [RPEF51H474Z2K1C03B](#) [RPER71H474K2S1C03A](#)  
[RPER71H824K3S1C03A](#) [RPE5C2A122J2S2D03A](#) [RPE5C1H182J2P1Y03B](#) [RPE5C2A182J2M1D03A](#)  
[RPER72A333K2S1D03A](#) [RPE6R1H150J1A1D02B](#) [RPE5C2A2R0C1A1D02B](#) [RPEF51H474Z2M2C03A](#)  
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[RPE6R1H470J1A1D02B](#) [RPE5C1H822J4M2F03A](#) [RPE5C2A152J2M1D03A](#) [RPER72A223K2P1D03B](#)  
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