

F72/F75 Series



Low Profile and HiCV Conformal Coated Chip



FEATURES

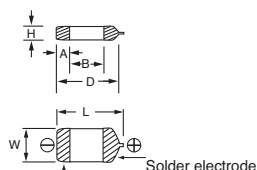
- Compliant to the RoHS2 directive 2011/65/EU
- SMD Conformal
- Small and low profile



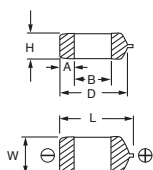
APPLICATIONS

- Smartphone
- Mobile phone
- Wireless module
- Hearing aid

F72



F75



CASE DIMENSIONS: millimeters (inches)

Code	L	W	H	A	B	D*
F72 Case Dimensions						
M	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	2.00 Max. (0.079 Max)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
R	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	1.20±0.30 (0.047±0.012)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
F75 Case Dimensions						
C	7.10±0.30 (0.280±0.012)	3.20±0.30 (0.126±0.012)	2.50±0.30 (0.098±0.012)	1.30±0.30 (0.051±0.012)	3.60±0.60 (0.142±0.024)	6.00 (0.236)
D	7.30±0.30 (0.287±0.012)	4.30±0.30 (0.136±0.012)	2.80±0.30 (0.110±0.012)	1.30±0.40 (0.051±0.016)	3.90±0.60 (0.153±0.024)	6.40 (0.252)
R	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	3.50±0.30 (0.138±0.012)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
U	7.10±0.30 (0.280±0.012)	3.20±0.30 (0.126±0.012)	2.00 Max. (0.079 Max)	1.30±0.30 (0.051±0.012)	3.60±0.60 (0.142±0.024)	6.00 (0.236)

*D dimension only for reference

HOW TO ORDER

F72

Type

1A

Rated Voltage

107

Capacitance Code

pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M

Tolerance
K = ±10%
M = ±20%

R

Case Size
See table above



Packaging
See Tape & Reel Packaging Section

AQ2

Single Facing Electrode

F75

Type

1C

Rated Voltage

157

Capacitance Code

pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M

Tolerance
K = ±10%
M = ±20%

D

Case Size
See table above



Packaging
See Tape & Reel Packaging Section

AQ2

Single Facing Electrode

TECHNICAL SPECIFICATIONS

Category Temperature Range:	-55 to +125°C
Rated Temperature:	+85°C
Capacitance Tolerance:	±20%, ±10% at 120Hz
Dissipation Factor:	Refer to next page
ESR 100kHz:	Refer to next page
Leakage Current:	After 1 minute's application of rated voltage, leakage current at 20°C is not more than 0.01CV or 0.5µA, whichever is greater. After 1 minute's application of rated voltage, leakage current at 85°C is not more than 0.1CV or 5µA, whichever is greater. After 1 minute's application of derated voltage, leakage current at 125°C is not more than 0.125CV or 6.3µA, whichever is greater.
Capacitance Change By Temperature	+15% Max. at +125°C +10% Max. at +85°C -10% Max. at -55°C

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CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

F72

Capacitance		Rated Voltage			
μF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)
33	336				R
47	476			R	R
68	686		R	R	R
100	107	R	R	R	
150	157	R	R	R	
220	227	R	R	R	M
330	337	R	R	R*	M
470	477			M	
680	687			M	
1000	108		M	M	
1500	158		M		

Available Ratings

*Codes under development – subject to change

F75

Capacitance		Rated Voltage			
μF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)
68	686				C
100	107				C
150	157			C	D
220	227		C	C/D	R
330	337	C	C/D	D	
470	477	C/D	D/U	R/U	
680	687	D	D/R/U*		
1000	108	D/R	R/U*		
1500	158	R			
2200	228	R			

Please contact to your local AVX sales office when these series are being designed in your application.

RATINGS & PART NUMBER REFERENCE

F72

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF (%) @ 120Hz	ESR (n) @ 100kHz	100kHz RMS Current (mA) 20°C	*1 ΔC/C (%)
4 Volt								
F720G107MRC	R	100	4	4.0	8	0.70	463	*
F720G157MRC	R	150	4	6.0	10	0.70	463	*
F720G227MRC	R	220	4	8.8	12	0.70	463	*
F720G337MRC	R	330	4	13.2	12	0.70	463	*
6.3 Volt								
F720J686MRC	R	68	6.3	4.3	6	0.75	447	*
F720J107MRC	R	100	6.3	6.3	8	0.70	463	*
F720J157MRC	R	150	6.3	9.5	10	0.70	463	*
F720J227MRC	R	220	6.3	13.9	12	0.70	463	*
F720J337MRC	R	330	6.3	20.8	12	0.70	463	*
F720J108MMCAQ2	M	1000	6.3	63.0	30	0.14	1118	±15
F720J158MMCAQ2	M	1500	6.3	95.0	45	0.14	1118	±20
10 Volt								
F721A476MRC	R	47	10	4.7	6	0.80	433	*
F721A686MRC	R	68	10	6.8	6	0.75	447	*
F721A107MRC	R	100	10	10.0	8	0.70	463	*
F721A157MRC	R	150	10	15.0	10	0.70	463	*
F721A227MRC	R	220	10	22.0	12	0.70	463	*
F721A477MMCAQ2	M	470	10	47.0	30	0.14	1118	±15
F721A687MMCAQ2	M	680	10	68.0	35	0.14	1118	±20
F721A108MMCAQ2	M	1000	10	200	45	0.14	1118	±20
16 Volt								
F721C336MRC	R	33	16	5.3	6	0.90	408	*
F721C476MRC	R	47	16	7.5	6	0.80	433	*
F721C686MRC	R	68	16	10.9	6	0.75	447	*
F721C227MMCAQ2	M	220	16	35.2	12	0.20	935	±20
F721C337MMCAQ2	M	330	16	52.8	45	0.20	935	±20

* In case of capacitance tolerance ± 10% type, "K" will be put at 9th digit of type numbering system

1: ΔC/C Marked ""

Item	F72 All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

F75

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	DCL (μA)	DF (%) @ 120Hz	ESR (n) @ 100kHz	100kHz RMS Current (mA) 20°C	*1 ΔC/C (%)
4 Volt								
F750G337MCC	C	330	4	13.2	10	0.15	856	*
F750G477MCC	C	470	4	18.8	14	0.12	957	*
F750G477MDC	D	470	4	18.8	14	0.12	1118	*
F750G687MDC	D	680	4	27.2	18	0.12	1118	*
F750G108MDC	D	1000	4	40.0	24	0.12	1118	*
F750G108MRC	R	1000	4	40.0	24	0.12	1443	*
F750G158MRC	R	1500	4	60.0	30	0.12	1443	*
F750G228MRC	R	2200	4	88.0	45	0.07	1890	*
6.3 Volt								
F750J227MCC	C	220	6.3	13.9	10	0.20	742	*
F750J337MCC	C	330	6.3	20.8	10	0.15	856	*
F750J337MDC	D	330	6.3	20.8	10	0.15	1000	*
F750J477MDC	D	470	6.3	29.6	14	0.12	1118	*
F750J477MUC	U	470	6.3	29.6	15	0.10	1049	*
F750J687MDC	D	680	6.3	42.8	18	0.12	1118	*
F750J687MRC	R	680	6.3	42.8	18	0.12	1443	*
F750J108MRC	R	1000	6.3	63.0	24	0.12	1443	*
10 Volt								
F751A157MCC	C	150	10	15.0	10	0.22	707	*
F751A227MCC	C	220	10	22.0	10	0.20	742	*
F751A227MDC	D	220	10	22.0	10	0.20	866	*
F751A337MDC	D	330	10	33.0	10	0.15	1000	*
F751A477MRC	R	470	10	47.0	14	0.12	1443	*
F751A477MUCAQ2	U	470	10	94.0	30	0.15	856	±20
16 Volt								
F751C686MCC	C	68	16	10.9	10	0.22	707	*
F751C107MCC	C	100	16	16.0	10	0.22	707	*
F751C157MDC	D	150	16	24.0	10	0.22	826	*
F751C227MRC	R	220	16	35.2	10	0.20	1118	*

* In case of capacitance tolerance ± 10% type, "K" will be put at 9th digit of type numbering system

1: ΔC/C Marked ""

Item	F75 All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

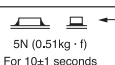


F72/F75 Series



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QUALIFICATION TABLE

TEST	F72/F75 series (Temperature range -55°C to +125°C)	
	Condition	
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change Refer to page 73 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Temperature Cycles	At -55°C / +125°C, 30 minutes each, 5 cycles Capacitance Change Refer to page 73 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Resistance to Soldering Heat	10 seconds reflow at 260°C, 10 seconds immersion at 260°C. Capacitance Change Refer to page 73 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Surge	After application of surge voltage in series with a 33Ω resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change Refer to page 73 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change Refer to page 73 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Shear Test	After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on a substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.	 5N (0.51kg · f) For 10±1 seconds
Terminal Strength	Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of capacitor, the pressure strength is applied with a specified jig at the center of substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals.	