

F72/F75 Series



Low Profile and HiCV Conformal Coated Chip



FEATURES

- Compliant to the RoHS directive (2002/95/EC)
- SMD Conformal
- Small and low profile

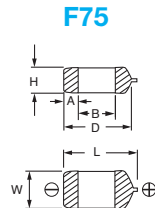
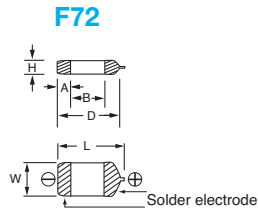
APPLICATIONS

- Smartphone
- Mobile phone
- Wireless module
- Hearing aid

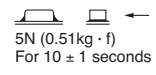
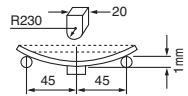
CASE DIMENSIONS: millimeters (inches)

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



TECHNICAL SPECIFICATIONS

Item	Performance Characteristics
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)
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change Refer to next page (*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, For 5 cycles Capacitance Change Refer to next page (*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 next page (*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 table below. Capacitance Change Refer to next page (*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 table below. Capacitance Change Refer to next page (*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. 
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. 

HOW TO ORDER

F72	1A	107	M	R		AQ2
Type	Rated Voltage	Capacitance Code	Tolerance	Case Size	Packaging	Single Facing Electrode
		pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	K = ±10% M = ±20%	See table above	See page 164 for details	
F75	1C	157	M	D		AQ2
Type	Rated Voltage	Capacitance Code	Tolerance	Case Size	Packaging	Single Facing Electrode
		pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	K = ±10% M = ±20%	See table above	See page 164 for details	



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CAPACITANCE AND RATED VOLTAGE, V_R (VOLTAGE CODE) 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 Number	Case Size	Cap (μF)	Rated Voltage (V)	Leakage Current (μA)	Dissipation Factor (%@120Hz)	ESR (Ω @100kHz)	*1 $\Delta\text{C/C}$ (%)
4 Volt							
F720G107MRC	R	100	4	4.0	8	0.70	*
F720G157MRC	R	150	4	6.0	10	0.70	*
F720G227MRC	R	220	4	8.8	12	0.70	*
F720G337MRC	R	330	4	13.2	12	0.70	*
6.3 Volt							
F720J686MRC	R	68	6.3	4.3	6	0.75	*
F720J107MRC	R	100	6.3	6.3	8	0.70	*
F720J157MRC	R	150	6.3	9.5	10	0.70	*
F720J227MRC	R	220	6.3	13.9	12	0.70	*
F720J337MRC	R	330	6.3	20.8	12	0.70	*
F720J108MMC	M	1000	6.3	63.0	30	0.14	± 15
F720J158MMC	M	1500	6.3	95.0	45	0.14	± 20
10 Volt							
F721A476MRC	R	47	10	4.7	6	0.80	*
F721A686MRC	R	68	10	6.8	6	0.75	*
F721A107MRC	R	100	10	10.0	8	0.70	*
F721A157MRC	R	150	10	15.0	10	0.70	*
F721A227MRC	R	220	10	22.0	12	0.70	*
F721A477MMC	M	470	10	47.0	30	0.14	± 15
F721A687MMC	M	680	10	68.0	35	0.14	± 20
F721A108MMC	M	1000	10	200	45	0.14	± 20
16 Volt							
F721C336MRC	R	33	16	5.3	6	0.90	*
F721C476MRC	R	47	16	7.5	6	0.80	*
F721C686MRC	R	68	16	10.9	6	0.75	*
F721C227MMCAQ2	M	220	16	35.2	12	0.20	± 20
F721C337MMCAQ2	M	330	16	52.8	45	0.20	± 20

1: $\Delta\text{C/C}$ Marked “”

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

Last update: 25.11.2013

F75

AVX Part Number	Case Size	Cap (μF)	Rated Voltage (V)	Leakage Current (μA)	Dissipation Factor (%@120Hz)	ESR (Ω @100kHz)	*1 $\Delta\text{C/C}$ (%)
4 Volt							
F750G337MCC	C	330	4	13.2	10	0.15	*
F750G477MCC	C	470	4	18.8	14	0.12	*
F750G477MDC	D	470	4	18.8	14	0.12	*
F750G687MDC	D	680	4	27.2	18	0.12	*
F750G108MDC	D	1000	4	40.0	24	0.12	*
F750G108MRC	R	1000	4	40.0	24	0.12	*
F750G158MRC	R	1500	4	60.0	30	0.12	*
F750G228MRC	R	2200	4	88.0	45	0.07	*
6.3 Volt							
F750J227MCC	C	220	6.3	13.9	10	0.20	*
F750J337MCC	C	330	6.3	20.8	10	0.15	*
F750J337MDC	D	330	6.3	20.8	10	0.15	*
F750J477MDC	D	470	6.3	29.6	14	0.12	*
F750J477MUC	U	470	6.3	29.6	15	0.10	*
F750J687MDC	D	680	6.3	42.8	18	0.12	*
F750J687MRC	R	680	6.3	42.8	18	0.12	*
F750J108MRC	R	1000	6.3	63.0	24	0.12	*
10 Volt							
F751A157MCC	C	150	10	15.0	10	0.22	*
F751A227MCC	C	220	10	22.0	10	0.20	*
F751A227MDC	D	220	10	22.0	10	0.20	*
F751A337MDC	D	330	10	33.0	10	0.15	*
F751A477MRC	R	470	10	47.0	14	0.12	*
F751A477MUC	U	470	10	94.0	30	0.15	± 20
16 Volt							
F751C686MCC	C	68	16	10.9	10	0.22	*
F751C107MCC	C	100	16	16.0	10	0.22	*
F751C157MDC	D	150	16	24.0	10	0.22	*
F751C227MRC	R	220	16	35.2	10	0.20	*

1: $\Delta\text{C/C}$ Marked “”

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