

F72/F75 Series



Low Profile and High CV Conformal Coated Chip



FEATURES

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

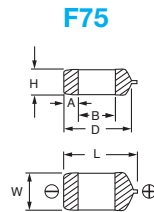
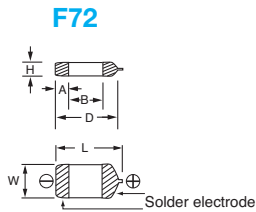
APPLICATIONS

- Smartphone
- Mobile phone
- Wireless module
- Hearing aid



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W	H	A	B	D*
F72 Case Dimensions								
M	2824	7260-20	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	2824	7260-15	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	2813	7132-28	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	2914	7343-31	7.30±0.30 (0.287±0.012)	4.30±0.30 (0.166±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)
M	2824	7260-28	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	2.80 Max. (0.110 Max)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
R	2824	7260-38	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	2813	7132-20	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)



HOW TO ORDER

*D dimension only for reference

F72	1A	107	M	R			AQ2 or Q2
Type	Rated Voltage	Capacitance Code	Tolerance	Case Size	Packaging	Specification Suffix	Single Face 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 Tape & Reel Packaging Section	AH1 = Low ESR	
F75	1C	157	M	D		AQ2	
Type	Rated Voltage	Capacitance Code	Tolerance	Case Size	Packaging	Single Face 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 Tape & Reel Packaging Section		

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

F72/F75 Series



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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		M
470	477			M	
680	687			M	
1000	108		M/M(AH1)	M	
1500	158		M		

Released ratings

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

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		
1000	108	D/R	R/U		
1500	158	R			
2200	228	R	M		

RATINGS & PART NUMBER REFERENCE

F72

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	100kHz RMS Current (mA)	*1 ΔC/C (%)	MSL
							@ 20°C		
4 Volt									
F720G107#RC	R	100	4	4.0	8	0.70	463	*	3
F720G157#RC	R	150	4	6.0	10	0.70	463	*	3
F720G227#RC	R	220	4	8.8	12	0.70	463	*	3
F720G337#RC	R	330	4	13.2	12	0.70	463	*	3
6.3 Volt									
F720J686#RC	R	68	6.3	4.3	6	0.75	447	*	3
F720J107#RC	R	100	6.3	6.3	8	0.70	463	*	3
F720J157#RC	R	150	6.3	9.5	10	0.70	463	*	3
F720J227#RC	R	220	6.3	13.9	12	0.70	463	*	3
F720J337#RC	R	330	6.3	20.8	12	0.70	463	*	3
F720J108#MCAQ2	M	1000	6.3	63.0	30	0.14	1118	±15	3
F720J108#MCAH1Q2	M	1000	6.3	63.0	30	0.075	1528	±15	3
F720J158#MCAQ2	M	1500	6.3	95.0	45	0.14	1118	±20	3
10 Volt									
F721A476#RC	R	47	10	4.7	6	0.80	433	*	3
F721A686#RC	R	68	10	6.8	6	0.75	447	*	3
F721A107#RC	R	100	10	10.0	8	0.70	463	*	3
F721A157#RC	R	150	10	15.0	10	0.70	463	*	3
F721A227#RC	R	220	10	22.0	12	0.70	463	*	3
F721A477#MCAQ2	M	470	10	47.0	30	0.14	1118	±15	3
F721A687#MCAQ2	M	680	10	68.0	35	0.14	1118	±20	3
F721A108#MCAQ2	M	1000	10	200	45	0.14	1118	±20	3
16 Volt									
F721C336#RC	R	33	16	5.3	6	0.90	408	*	3
F721C476#RC	R	47	16	7.5	6	0.80	433	*	3
F721C686#RC	R	68	16	10.9	6	0.75	447	*	3
F721C227#MCAQ2	M	220	16	35.2	12	0.20	935	±20	3
F721C337#MCAQ2	M	330	16	52.8	45	0.20	935	±20	3

#: "M" for ±20% tolerance, "K" for ±10% tolerance.

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

1: ΔC/C Marked ""

Item	F72/F75 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 @ 100kHz (Ω)	100kHz RMS Current (mA)	*1 ΔC/C (%)	MSL
							@ 20°C		
4 Volt									
F750G337#CC	C	330	4	13.2	10	0.15	856	*	3
F750G477#CC	C	470	4	18.8	14	0.12	957	*	3
F750G477#DC	D	470	4	18.8	14	0.12	1118	*	3
F750G687#DC	D	680	4	27.2	18	0.12	1118	*	3
F750G108#DC	D	1000	4	40.0	24	0.12	1118	*	3
F750G108#RC	R	1000	4	40.0	24	0.12	1443	*	3
F750G158#RC	R	1500	4	60.0	30	0.12	1443	*	3
F750G228#RC	R	2200	4	88.0	45	0.07	1890	*	3
6.3 Volt									
F750J227#CC	C	220	6.3	13.9	10	0.20	742	*	3
F750J337#CC	C	330	6.3	20.8	10	0.15	856	*	3
F750J337#DC	D	330	6.3	20.8	10	0.15	1000	*	3
F750J477#DC	D	470	6.3	29.6	14	0.12	1118	*	3
F750J477#UC	U	470	6.3	29.6	15	0.10	1049	*	3
F750J687#DC	D	680	6.3	42.8	18	0.12	1118	*	3
F750J687#RC	R	680	6.3	42.8	18	0.12	1443	*	3
F750J108#RC	R	1000	6.3	63.0	24	0.12	1443	*	3
F750J108#UCAQ2	U	1000	6.3	126	40	0.15	856	±20	3
F750J228#MCAQ2	M	2200	6.3	139	60	0.08	1581	±20	3
10 Volt									
F751A157#CC	C	150	10	15.0	10	0.22	707	*	3
F751A227#CC	C	220	10	22.0	10	0.20	742	*	3
F751A227#DC	D	220	10	22.0	10	0.20	866	*	3
F751A337#DC	D	330	10	33.0	10	0.15	1000	*	3
F751A477#RC	R	470	10	47.0	14	0.12	1443	*	3
F751A477#UCAQ2	U	470	10	94.0	30	0.15	856	±20	3
16 Volt									
F751C686#CC	C	68	16	10.9	10	0.22	707	*	3
F751C107#CC	C	100	16	16.0	10	0.22	707	*	3
F751C157#DC	D	150	16	24.0	10	0.22	826	*	3
F751C227#RC	R	220	16	35.2	10	0.20	1118	*	3

#: "M" for ±20% tolerance, "K" for ±10% tolerance.

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

QUALIFICATION TABLE

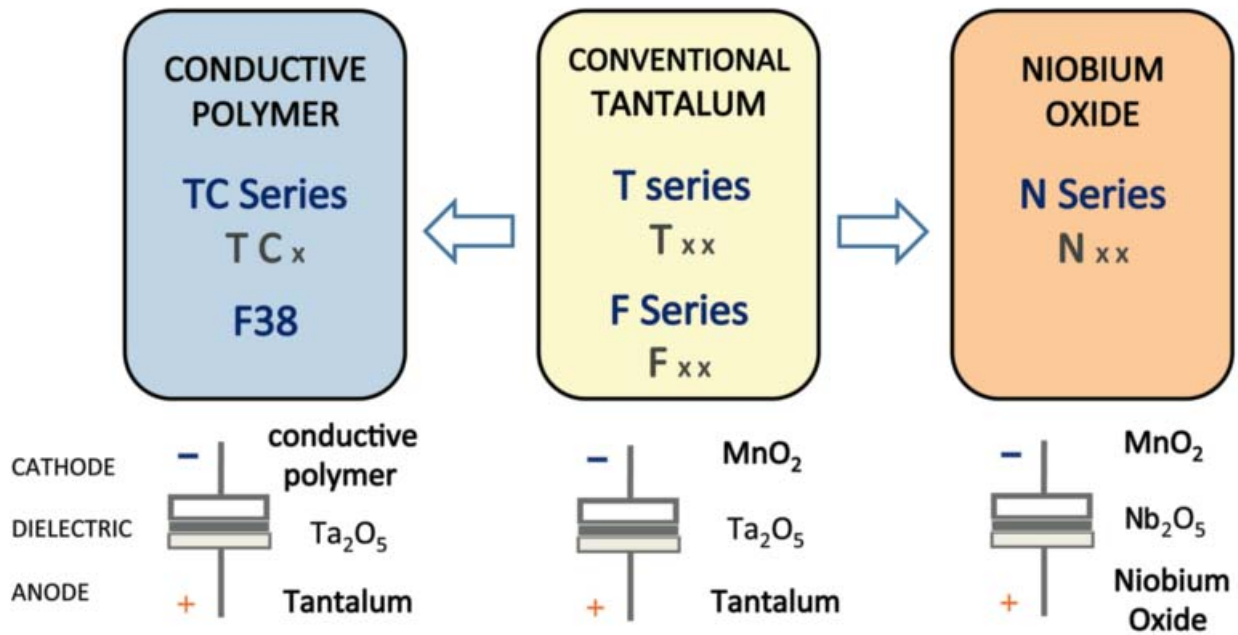
TEST	F72/F75 series (Temperature range -55°C to +125°C)	
	Condition	
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change Refer to page 173 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Temperature Cycles	At -55°C / +125°C, 30 minutes each, 5 cycles Capacitance Change Refer to page 173 (*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 173 (*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 173 (*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 173 (*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.	<p>5N (0.51kg · f) For 10±1 seconds</p>
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.	

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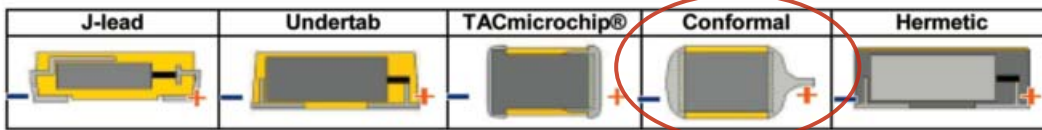


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AVX SOLID ELECTROLYTE CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: CONFORMAL Ta MnO₂

