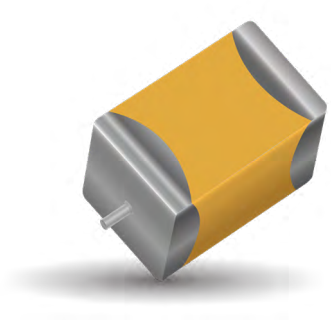
F72/F75 Series

Low Profile and High CV Conformal Coated Chip



FEATURES

- Compliant to the RoHS3 directive 2015/863/EU
- SMD Conformal
- Small and Low Profile
- 100% Surge Current Tested

LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

APPLICATIONS

- Smartphone
- Mobile Phone
- Wireless Module
- Hearing Aid

CASE DIMENSIONS:

millimeters (inches)

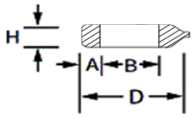
Code	EIA Code	EIA Metric	L	W	H	A	B	D*
F72 Case Dimensions								
D	2914	7343-20	7.30±0.30 (0.287±0.012)	4.30±0.30 (0.169±0.012)	2.00 Max. (0.079 Max)	1.30±0.40 (0.051±0.016)	3.90±0.60 (0.153±0.024)	6.40 (0.252)
M	2824	7260-20	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	2.00 Max. (0.079 Max)	1.30±0.40 (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 (0.169±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)

Under development

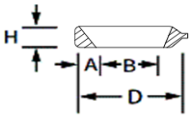
*D dimension only for reference

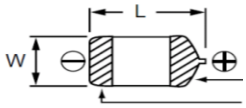
F72/F75

Double Face Electrode



Single Face Electrode





Solder Electrode

HOW TO ORDER

F72	1A	107	M	R	□	□□□	AQ2 or Q2
Type	**Rated Voltage**	**Capacitance Code** pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	**Tolerance** K=±10% M=±20%	**Case Size** See table above	**Packaging** See Tape & Reel Packaging Section	**Specification Suffix** AH1 = Low ESR	**Single Face Electrode**

F75	1C	157	M	D	□	AQ2
Type	**Rated Voltage**	**Capacitance Code** pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	**Tolerance** K=±10% M=±20%	**Case Size** See table above	**Packaging** See Tape & Reel Packaging Section	**Single Face 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	D*
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		

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		

Released ratings
*Codes under development - subject to change.
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 @ 100kHz (Ω)	100kHz RMS Current (mA)			*1 ΔC/C (%)	MSL
							25°C	85°C	125°C		
4 Volt											
F720G107#RC	R	100	4	4.0	8	0.70	463	417	185	*	3
F720G157#RC	R	150	4	6.0	10	0.70	463	417	185	*	3
F720G227#RC	R	220	4	8.8	12	0.70	463	417	185	*	3
F720G337#RC	R	330	4	13.2	12	0.70	463	417	185	*	3
6.3 Volt											
F720J686#RC	R	68	6.3	4.3	6	0.75	447	402	179	*	3
F720J107#RC	R	100	6.3	6.3	8	0.70	463	417	185	*	3
F720J157#RC	R	150	6.3	9.5	10	0.70	463	417	185	*	3
F720J227#RC	R	220	6.3	13.9	12	0.70	463	417	185	*	3
F720J337#RC	R	330	6.3	20.8	12	0.70	463	417	185	*	3
F720J108#MCAQ2	M	1000	6.3	63.0	30	0.14	1118	1006	447	±15	3
F720J108#MCAH1Q2	M	1000	6.3	63.0	30	0.075	1528	1375	611	±15	3
F720J158#MCAQ2	M	1500	6.3	95.0	45	0.14	1118	1006	447	±20	3
10 Volt											
F721A476#RC	R	47	10	4.7	6	0.80	433	390	173	*	3
F721A686#RC	R	68	10	6.8	6	0.75	447	402	179	*	3
F721A107#RC	R	100	10	10.0	8	0.70	463	417	185	*	3
F721A157#RC	R	150	10	15.0	10	0.70	463	417	185	*	3
F721A227#RC	R	220	10	22.0	12	0.70	463	417	185	*	3
F721A477#MCAQ2	M	470	10	47.0	30	0.14	1118	1006	447	±15	3
F721A687#MCAQ2	M	680	10	68.0	35	0.14	1118	1006	447	±20	3
F721A108#MCAQ2	M	1000	10	200	45	0.14	1118	1006	447	±20	3
16 Volt											
F721C336#RC	R	33	16	5.3	6	0.90	408	367	163	*	3
F721C476#RC	R	47	16	7.5	6	0.80	433	390	173	*	3
F721C686#RC	R	68	16	10.9	6	0.75	447	402	179	*	3
F721C107#DCAQ2	D	100	16	16.0	10	0.20	866	779	346	*	3
F721C227#MCAQ2	M	220	16	35.2	12	0.20	935	842	374	±20	3
F721C337#MCAQ2	M	330	16	52.8	45	0.20	935	842	374	±20	3

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
							25°C	85°C	125°C		
4 Volt											
F750G337#CC	C	330	4	13.2	10	0.15	856	771	343	*	3
F750G477#CC	C	470	4	18.8	14	0.12	957	862	383	*	3
F750G477#DC	D	470	4	18.8	14	0.12	1118	1006	447	*	3
F750G687#DC	D	680	4	27.2	18	0.12	1118	1006	447	*	3
F750G108#DC	D	1000	4	40.0	24	0.12	1118	1006	447	*	3
F750G108#RC	R	1000	4	40.0	24	0.12	1443	1299	577	*	3
F750G158#RC	R	1500	4	60.0	30	0.12	1443	1299	577	*	3
F750G228#RC	R	2200	4	88.0	45	0.07	1890	1701	756	*	3
6.3 Volt											
F750J227#CC	C	220	6.3	13.9	10	0.20	742	667	297	*	3
F750J337#CC	C	330	6.3	20.8	10	0.15	856	771	343	*	3
F750J337#DC	D	330	6.3	20.8	10	0.15	1000	900	400	*	3
F750J477#DC	D	470	6.3	29.6	14	0.12	1118	1006	447	*	3

RATINGS & PART NUMBER REFERENCE

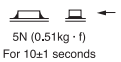
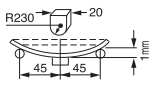
AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	100kHz RMS Current (mA)			*1 ΔC/C (%)	MSL
							25°C	85°C	125°C		
F750J477#UC	U	470	6.3	29.6	15	0.10	1049	944	420	*	3
F750J687#DC	D	680	6.3	42.8	18	0.12	1118	1006	447	*	3
F750J687#RC	R	680	6.3	42.8	18	0.12	1443	1299	577	*	3
F750J108#RC	R	1000	6.3	63.0	24	0.12	1443	1299	577	*	3
F750J108#UCAQ2	U	1000	6.3	126	40	0.15	856	771	343	±20	3
F750J228#MCAQ2	M	2200	6.3	139	60	0.08	1581	1423	632	±20	3
10 Volt											
F751A157#CC	C	150	10	15.0	10	0.22	707	636	283	*	3
F751A227#CC	C	220	10	22.0	10	0.20	742	667	297	*	3
F751A227#DC	D	220	10	22.0	10	0.20	866	779	346	*	3
F751A337#DC	D	330	10	33.0	10	0.15	1000	900	400	*	3
F751A477#RC	R	470	10	47.0	14	0.12	1443	1299	577	*	3
F751A477#UCAQ2	U	470	10	94.0	30	0.15	856	771	343	±20	3
16 Volt											
F751C686#CC	C	68	16	10.9	10	0.22	707	636	283	*	3
F751C107#CC	C	100	16	16.0	10	0.22	707	636	283	*	3
F751C157#DC	D	150	16	24.0	10	0.22	826	743	330	*	3
F751C227#RC	R	220	16	35.2	10	0.20	1118	1006	447	*	3

1: ΔC/C Marked ""

#: "M" for ±20% tolerance, "K" for ± 10% tolerance.
Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

Item	F72/F75 All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

QUALIFICATION TABLE

TEST	F72/75 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 174 (*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 174 (*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 174 (*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 85ºC, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Refer to page 174 (*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 174 (*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. 

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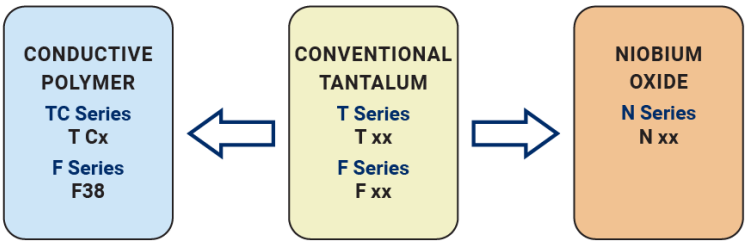
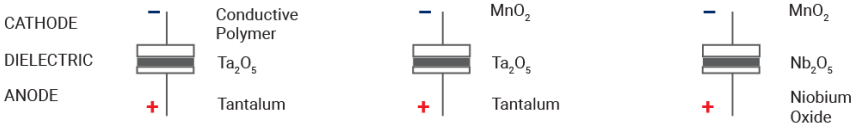
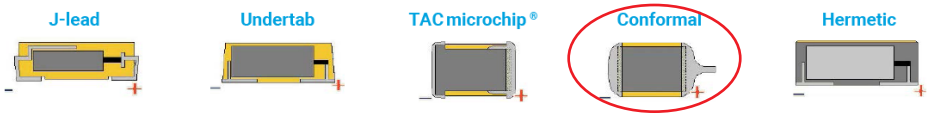
AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



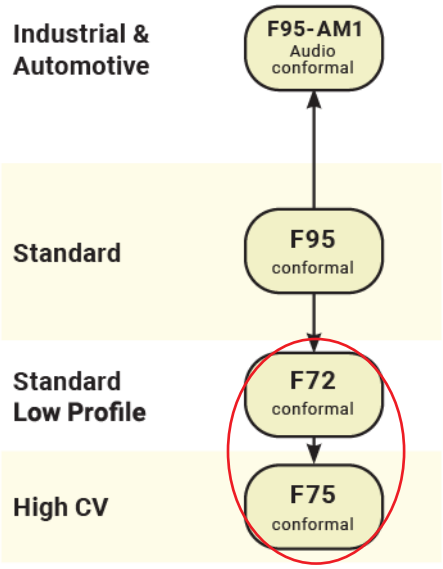


FIVE CAPACITOR CONSTRUCTION STYLES



SERIES LINE UP :

CONFORMAL Ta MnO_2



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