F95 Series

Standard Conformal Coated Chip

FEATURES

- Compliant to the RoHS2 directive 2011/65/EU
- For high frequency
- SMD Conformal
- Small and high CV

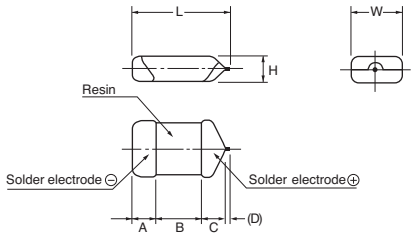
LEAD-FREE

LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

APPLICATIONS

- Smartphone
- Tablet PC
- Wireless module
- e-book



Single-side electrodes (Both electrodes at bottom side only)

CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W	H	A	B	C	D*
A	1207	3217-16	3.20±0.30 (0.126±0.012)	1.70±0.30 (0.067±0.008)	1.40±0.20 (0.055±0.008)	0.80±0.30 (0.031±0.012)	1.20±0.30 (0.047±0.012)	0.80±0.30 (0.031±0.012)	0.20 (0.008)
B	1411	3528-20	3.50±0.20 (0.138±0.012)	2.80±0.20 (0.110±0.012)	1.80±0.20 (0.031±0.008)	0.80±0.30 (0.031±0.012)	1.20±0.30 (0.047±0.012)	1.10±0.30 (0.043±0.012)	0.20 (0.008)
P	0905	2212-12	2.20±0.30 (0.087±0.012)	1.25±0.30 (0.049±0.012)	1.00±0.20 (0.039±0.008)	0.60±0.30 (0.024±0.012)	0.80±0.30 (0.031±0.012)	0.80±0.30 (0.031±0.012)	0.20 (0.008)
Q	1306	3216-10	3.20±0.20 (0.126±0.008)	1.60±0.20 (0.063±0.008)	0.80±0.20 (0.031±0.008)	0.80±0.20 (0.031±0.008)	1.20±0.20 (0.047±0.008)	0.80±0.20 (0.031±0.008)	0.20 (0.008)
R	0905	2212-065	2.20±0.30 (0.087±0.012)	1.25±0.30 (0.049±0.012)	0.65 max. (0.026 max.)	0.60±0.30 (0.024±0.012)	0.80±0.30 (0.031±0.012)	0.50 min. (0.020 min.)	0.20 (0.008)
S	1306	3216-12	3.20±0.30 (0.126±0.012)	1.60±0.30 (0.063±0.008)	1.00±0.20 (0.039±0.008)	0.80±0.30 (0.031±0.012)	1.20±0.30 (0.047±0.012)	0.80±0.30 (0.031±0.012)	0.20 (0.008)
T	1411	3527-12	3.50±0.20 (0.138±0.012)	2.70±0.20 (0.106±0.012)	1.00±0.20 (0.039±0.008)	0.80±0.20 (0.031±0.008)	1.20±0.20 (0.047±0.008)	1.10±0.30 (0.043±0.012)	0.20 (0.008)

*D dimension only for reference

HOW TO ORDER

F95	0G	337	M	A	□	□□□	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** LZT = Rated temperature 60ºC only	**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:	Refer to next page Provided that: After 1 minute's application of rated voltage, leakage current at 85°C 10 times or less than 20ºC specified value. After 1 minute's application of rated voltage, leakage current at 125°C 12.5 times or less than 20ºC specified value.
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)

Capacitance		Rated Voltage							
µF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)	20V (1D)	25V (1E)	35V (1V)	50V (1H)
1.0	105						R	P/S	P(M)*
1.5	155								
2.2	225					P	P/R	A	
3.3	335								
4.7	475				P/R	A/S	A/P/Q/S	B	
6.8	685								
10	106			P/R(M)	A/P/Q/S	A/B/S	A/B		
15	156			P	A/S				
22	226		R(M)	A/P(M)/Q/S	A/B/Q/S/T	B			
33	336		P(M)	A/P(M)/Q/S	B/T	B			
47	476		P(M)	A/B/P(M)/S/T	B				
68	686		P(M)	B					
100	107	A/P(M)/S	A/B/P(M)/Q/S/T	A/B/T					
150	157	B/P(M)	B						
220	227	A/B/Q/S/T	B						
330	337	A/B/T	B						
470	477	B	B						
680	687								

Released ratings (M tolerance only)

*Rated temperature 60°C only. Please contact AVX when you need detail spec.

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

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RATINGS & PART NUMBER REFERENCE

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	*1 ΔC/C (%)	MSL
4 Volt								
F950G107#AAAQ2	A	100	4	4.0	12	0.5	*	3
F950G107MPAAQ2	P	100	4	4.0	30	1.2	±15	3
F950G107#SAAQ2	S	100	4	4.0	14	0.8	*	3
F950G157#BAAQ2	B	150	4	6.0	14	0.4	*	3
F950G157MPAAQ2	P	150	4	12.0	31	1.1	±20	3
F950G227#AAAQ2	A	220	4	8.8	25	0.8	±15	3
F950G227#BAAQ2	B	220	4	8.8	16	0.4	*	3
F950G227#QAAQ2	Q	220	4	8.8	30	1.5	±20	3
F950G227#SAAQ2	S	220	4	8.8	30	0.8	±15	3
F950G227#TAAQ2	T	220	4	8.8	25	0.6	*	3
F950G337#AAAQ2	A	330	4	13.2	40	0.8	±20	3
F950G337#BAAQ2	B	330	4	13.2	30	0.6	±15	3
F950G337#TAAQ2	T	330	4	13.2	40	0.8	±20	3
F950G477#BAAQ2	B	470	4	18.8	40	0.4	±20	3
6.3 Volt								
F950J336MPAAQ2	P	33	6.3	2.1	14	1.1	*	3
F950J226MRAAQ2	R	22	6.3	1.4	20	2.0	±20	3
F950J476MPAAQ2	P	47	6.3	3.0	20	1.1	±15	3
F950J686MPAAQ2	P	68	6.3	4.3	25	1.2	±15	3
F950J107#AAAQ2	A	100	6.3	6.3	14	0.5	*	3
F950J107#BAAQ2	B	100	6.3	6.3	14	0.4	*	3
F950J107MPAAQ2	P	100	6.3	12.6	35	1.2	±20	3
F950J107#QAAQ2	Q	100	6.3	6.3	30	1.1	±20	3
F950J107#SAAQ2	S	100	6.3	6.3	20	0.9	±15	3
F950J107#TAAQ2	T	100	6.3	6.3	14	0.6	*	3
F950J157#BAAQ2	B	150	6.3	9.5	18	0.4	*	3
F950J227#BAAQ2	B	220	6.3	13.9	30	0.4	*	3
F950J337#BAAQ2	B	330	6.3	20.8	35	0.6	±20	3
F950J477#BAAQ2	B	470	6.3	59.2	40	0.5	±20	3
10 Volt								
F951A106#PAAQ2	P	10	10	1.0	8	3.0	*	3
F951A106MRAAQ2	R	10	10	1.0	18	3.0	±20	3
F951A156#PAAQ2	P	15	10	1.5	10	3.0	*	3
F951A226#AAAQ2	A	22	10	2.2	6	0.9	*	3
F951A226MPAAQ2	P	22	10	2.2	14	3.0	*	3
F951A226#QAAQ2	Q	22	10	2.2	10	2.0	*	3
F951A226#SAAQ2	S	22	10	2.2	10	1.1	*	3
F951A336#AAAQ2	A	33	10	3.3	10	0.8	*	3
F951A336MPAAQ2	P	33	10	3.3	20	3.0	±15	3
F951A336#QAAQ2	Q	33	10	3.3	18	3.0	±15	3
F951A336#SAAQ2	S	33	10	3.3	10	1.1	*	3
F951A476#AAAQ2	A	47	10	4.7	10	0.8	*	3
F951A476#BAAQ2	B	47	10	4.7	8	0.4	*	3
F951A476MPAAQ2	P	47	10	4.7	30	3.0	±20	3
F951A476#SAAQ2	S	47	10	4.7	14	1.1	±15	3
F951A476#TAAQ2	T	47	10	4.7	12	0.8	*	3
F951A686#BAAQ2	B	68	10	6.8	12	0.4	*	3
F951A107#AAAQ2	A	100	10	10.0	35	1.0	±15	3
F951A107#BAAQ2	B	100	10	10.0	14	0.4	*	3
F951A107#TAAQ2	T	100	10	10.0	20	0.6	±15	3
16 Volt								
F951C475#PAAQ2	P	4.7	16	0.8	10	4.0	*	3
F951C475#RAAQ2	R	4.7	16	0.8	12	6.0	±20	3
F951C106#AAAQ2	A	10	16	1.6	6	1.4	*	3
F951C106#PAAQ2	P	10	16	1.6	10	4.0	*	3
F951C106#QAAQ2	Q	10	16	1.6	8	3.0	*	3
F951C106#SAAQ2	S	10	16	1.6	8	2.0	*	3
F951C156#AAAQ2	A	15	16	2.4	8	1.4	*	3
F951C156#SAAQ2	S	15	16	2.4	8	2.0	*	3
F951C226#AAAQ2	A	22	16	3.5	8	1.4	*	3
F951C226#BAAQ2	B	22	16	3.5	6	0.5	*	3
F951C226#QAAQ2	Q	22	16	3.5	12	3.0	*	3
F951C226#SAAQ2	S	22	16	3.5	10	2.0	±15	3
F951C226#TAAQ2	T	22	16	3.5	8	1.4	*	3
F951C336#BAAQ2	B	33	16	5.3	8	0.5	*	3
F951C336#TAAQ2	T	33	16	5.3	11	1.5	±10	3
F951C476#BAAQ2	B	47	16	7.5	10	0.6	*	3
20 Volt								
F951D225#PAAQ2	P	2.2	20	0.5	6	6.0	*	3
F951D475#AAAQ2	A	4.7	20	0.9	6	1.5	*	3
F951D475#SAAQ2	S	4.7	20	0.9	8	4.0	*	3
F951D106#AAAQ2	A	10	20	2.0	8	1.5	*	3
F951D106#BAAQ2	B	10	20	2.0	6	0.8	*	3
F951D106#SAAQ2	S	10	20	2.0	10	4.0	±10	3
F951D226#BAAQ2	B	22	20	4.4	8	0.8	*	3
F951D336#BAAQ2	B	33	20	6.6	15	1.0	*	3
25 Volt								
F951E105#RAAQ2	R	1	25	0.5	10	10.0	±10	3
F951E225#PAAQ2	P	2.2	25	0.6	8	6.0	±15	3
F951E225#RAAQ2	R	2.2	25	0.6	15	15.0	±20	3
F951E475#AAAQ2	A	4.7	25	1.2	8	2.0	*	3
F951E475#PAAQ2	P	4.7	25	1.2	10	8.0	±15	3
F951E475#QAAQ2	Q	4.7	25	1.2	10	4.0	±15	3
F951E475#SAAQ2	S	4.7	25	1.2	8	4.0	*	3
F951E106#AAAQ2	A	10	25	2.5	12	2.0	±15	3
F951E106#BAAQ2	B	10	25	2.5	6	0.9	*	3
35 Volt								
F951V105#PAAQ2	P	1	35	0.5	8	10.0	±10	3
F951V105#SAAQ2	S	1	35	0.5	6	8.0	*	3
F951V225#AAAQ2	A	2.2	35	0.8	6	4.4	*	3
F951V475#BAAQ2	B	4.7	35	1.7	6	1.6	*	3
50 Volt								
F951H105MPALZTQ2	P	1	50	1.0	8	7.0	±20	3

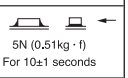
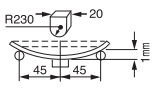
1: ΔC/C Marked ""

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

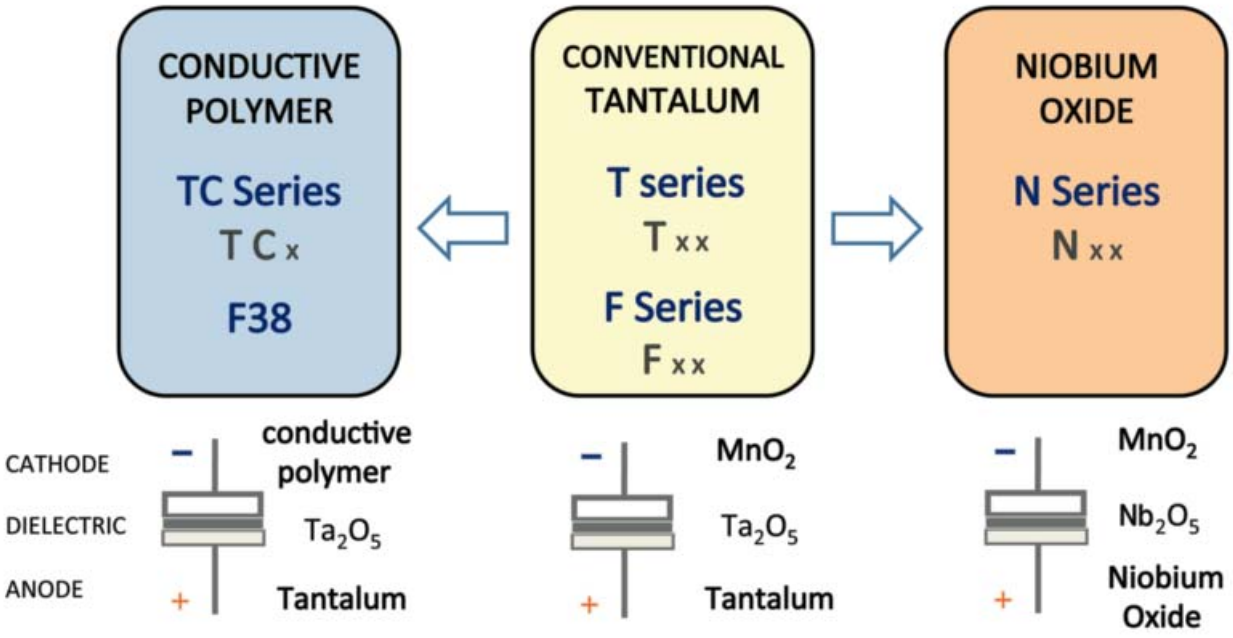
#: "M" for ±20% tolerance, "K" for ± 10% tolerance. When you need K tolerance for the part numbers which have M tolerance only, please contact to your local AVX sales office.

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

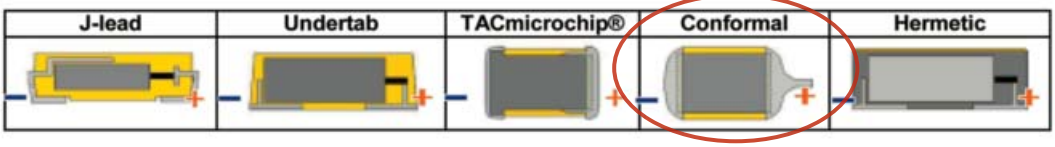
QUALIFICATION TABLE

TEST	F95 series (Temperature range -55ºC to +125ºC) Condition
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change ..... Refer to page 165 (*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 165 (*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 165 (*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 165 (*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 165 (*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. 

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: CONFORMAL Ta MnO_2