

F98 Series



Resin-Molded Chip, High CV Undertab



FEATURES

- Compliant to the RoHS2 directive 2011/65/EU
- SMD face down design
- Small and low profile



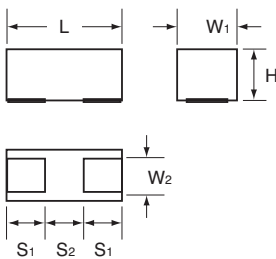
APPLICATIONS

- Smartphone
- Mobile phone
- Wireless module
- Hearing aid

CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W ₁	W ₂	H	S ₁	W ₂
M	0603	1608-09	1.60 ^{+0.20/-0.10} (0.063 ^{+0.008/-0.004})	0.85 ^{+0.20/-0.10} (0.033 ^{+0.008/-0.004})	0.65±0.10 (0.026±0.004)	0.80±0.10 ^{*3} (0.031±0.004)	0.50±0.10 (0.020±0.004)	0.60±0.10 (0.024±0.004)
S	0805	2012-09	2.00 ^{+0.20/-0.10} (0.079 ^{+0.008/-0.004})	1.25 ^{+0.20/-0.10} (0.049 ^{+0.008/-0.004})	0.90±0.10 (0.035±0.004)	0.80±0.10 (0.031±0.004)	0.50±0.10 (0.020±0.004)	1.00±0.10 (0.039±0.004)
U	0402	1106-06	1.10±0.05 (0.043±0.002)	0.60±0.05 (0.024±0.002)	0.35±0.05 (0.014±0.002)	0.55±0.05 (0.022±0.002)	0.30±0.05 (0.012±0.002)	0.50±0.05 (0.020±0.002)

^{*3} F980J107MMAAXE: 1.0mm Max.

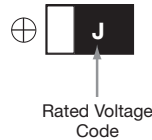


MARKING

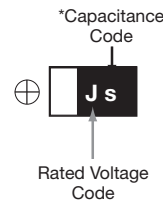
U CASE



M CASE



S CASE



HOW TO ORDER

F98
Type

0J
Rated Voltage

106
Capacitance Code
pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)

M
Tolerance
M = ±20%

M
Case Size
See table above

Packaging
See Tape & Reel Packaging Section

Specification Suffix
LZT = Rated temperature 60°C only
AXE = Rated temperature 60°C and H dimension 1.0mm Max

TECHNICAL SPECIFICATIONS

Category Temperature Range:	-55 to +125°C
Rated Temperature:	+85°C
Capacitance Tolerance:	±20% at 120Hz
Dissipation Factor:	Refer to next page
ESR 100kHz:	Refer to next page
Leakage Current:	Refer to next page Provided that: After 5 minute's application of rated voltage, leakage current at 85°C 10 times or less than 20°C specified value. After 5 minute's application of rated voltage, leakage current at 125°C 12.5 times or less than 20°C specified value.

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

Capacitance		Rated Voltage								*Cap Code
μF	Code	2.5 (0e)	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)	20V (1D)	25V (1E)	35V (1V)	
0.33	334						U**			N
1.0	105					M	M	M	S	A
2.2	225				M/U	M				J
4.7	475		U	M/U	M/U**	M				S
10	106		U	M/U**	M	S				a
15	156		U							e
22	226		M/U**	M	M**/S					J
33	336		M	M	M**/S					n
47	476	M	M	M**/S	S					s
68	686		M/S							w
100	107		M/S	M*/S						A
220	227		S							J

Available Ratings

*Codes under development - subject to change

** Rated temperature 60°C and H dimension 1.0mm Max only. Please contact AVX when you need detail spec.

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We can consider the type of compliance to AEC-Q200.

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

RATINGS & PART NUMBER REFERENCE

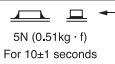
AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	*2 DCL (μA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	*1 ΔC/C (%)
2.5 Volt							
F980E476MMA	M	47	2.5	1.2	30	4	±30
4 Volt							
F980G475MUA	U	4.7	4	0.5	20	20	±30
F980G106MUA	U	10	4	0.8	25	20	±30
F980G156MUA	U	15	4	0.9	25	25	±30
F980G226MMA	M	22	4	0.9	15	7.5	±30
F980G226MUALZT	U	22	4	25.0	40	20	±30
F980G336MMA	M	33	4	1.3	30	4	±30
F980G476MMA	M	47	4	1.9	40	8	±30
F980G686MMA	M	68	4	27.2	50	10	±30
F980G686MSA	S	68	4	2.7	30	4	±30
F980G107MMA	M	100	4	80.0	60	10	±30
F980G107MSA	S	100	4	4.0	35	4	±30
F980G227MSA	S	220	4	132	80	5	±30
6.3 Volt							
F980J475MMA	M	4.7	6.3	0.5	20	7.5	±30
F980J475MUA	U	4.7	6.3	0.6	20	20	±30
F980J106MMA	M	10	6.3	0.6	8	6	±30
F980J106MUALZT	U	10	6.3	6.3	30	30	±30
F980J226MMA	M	22	6.3	1.4	20	6	±30
F980J336MMA	M	33	6.3	4.2	35	8	±30
F980J476MMA	M	47	6.3	29.6	45	10	±30
F980J476MSA	S	47	6.3	3.0	25	6	±30
F980J107MMAAXE	M	100	6.3	126	80	10	±30
F980J107MSA	S	100	6.3	63.0	50	8	±30

*2: Leakage Current

After 5 minute's application of rated voltage, leakage current at 20°C.

AVX Part No.	Case Size	Capacitance (μF)	Rated Voltage (V)	*2 DCL (μA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	*1 ΔC/C (%)
10 Volt							
F981A225MMA	M	2.2	10	0.5	6	7.5	±30
F981A225MUA	U	2.2	10	0.5	15	15	±30
F981A475MMA	M	4.7	10	0.5	6	6	±30
F981A475MUALZT	U	4.7	10	4.7	25	25	±30
F981A106MMA	M	10	10	1.0	20	7.5	±30
F981A226MMALZT	M	22	10	11.0	30	8	±30
F981A226MSA	S	22	10	2.2	20	4	±30
F981A336MMALZT	M	33	10	33.0	45	8	±30
F981A336MSA	S	33	10	3.3	30	6	±30
F981A476MSA	S	47	10	9.4	35	5	±30
16 Volt							
F981C105MMA	M	1	16	0.5	6	10	±30
F981C225MMA	M	2.2	16	0.5	6	10	±30
F981C475MMA	M	4.7	16	0.8	12	12	±30
F981C106MSA	S	10	16	1.6	18	4	±30
20 Volt							
F981D105MMA	M	1	20	0.5	6	10	±30
25 Volt							
F981E105MMA	M	1	25	0.5	8	10	±30
35 Volt							
F981V105MSA	S	1	35	0.7	20	8	±30

QUALIFICATION TABLE

TEST	F98 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 68 (*1) Dissipation Factor 150% or less of initial specified value Leakage Current 200% or less of initial specified value	
Temperature Cycles	-55°C / +125°C, 30 minutes each, 5 cycles Capacitance Change Refer to page 68 (*1) Dissipation Factor 150% or less of initial specified value Leakage Current 200% or less of initial specified value	
Resistance to Soldering Heat	10 seconds reflow at 260°C, 5 seconds immersion at 260°C. Capacitance Change Refer to page 68 (*1) Dissipation Factor Initial specified value or less Leakage Current Initial specified value or less	
Surge	After application of surge in series with a 1k Ω 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 68 (*1) Dissipation Factor 150% or less of initial specified value Leakage Current 200% or less of initial specified value	
Endurance	After 1000 hours' application of rated voltage in series with a 3 Ω resistor at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change Refer to page 68 (*1) Dissipation Factor 150% or less of initial specified value Leakage Current 200% or less of initial specified value	
Shear Test	After applying the pressure load of 5N for 10 $\pm$ 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.	