SOLID TANTALUM ELECTROLYTIC CAPACITORS

nichicon

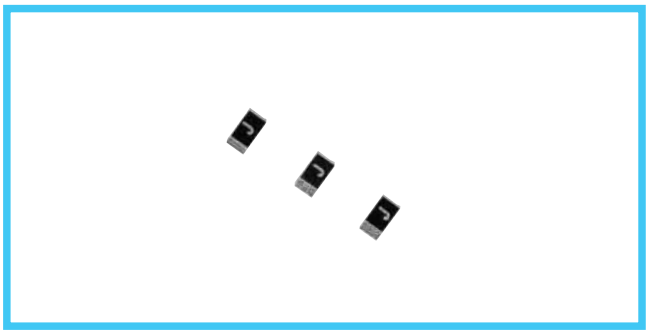
F98 Resin-molded Chip, High Capacitance Series

FRAMELESS™

For SMD Smaller

Upgrade

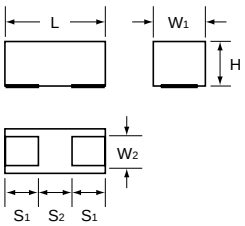
● Adapted to the RoHS directive (2002/95/EC).



■Type numbering system (Example : 6.3V 10 µF)

1	2	3	4	5	6	7	8	9	10	11	
F	9	8	0	J	1	0	6	M	M		Taping code (Refer to page 244 for details)
											Case code
											Capacitance tolerance
											Rated Capacitance
											Rated voltage
											Series

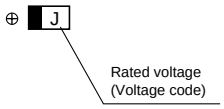
■Drawing



(mm)

Cace Code	L	W1	W2	H	S1	S2
M	1.6 ± 0.1	0.85 ± 0.1	0.65 ± 0.1	0.8 ± 0.1	0.5 ± 0.1	0.6 ± 0.1
S	2.0 ± 0.1	1.25 ± 0.1	0.9 ± 0.1	0.8 ± 0.1	0.5 ± 0.1	1.0 ± 0.1

■ Marking

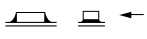
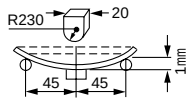


■Standard ratings

Cap.(µF) \ V	Code	2.5	4	6.3	10	16
		0E	0G	0J	1A	1C
1	105					M
2.2	225				M	M
4.7	475			M	M	M
10	106			M	M	S
22	226		M	M	S	
33	336		M		S	
47	476	M		S		
68	686		S			
100	107	(S)	(S)			

( ) The series in parentheses are being developed. Please contact to your local Nichicon sales office when these series are being designed in your application.

■Specifications

Item	Performance Characteristics
Category Temperature Range	-55 ~ +125°C (Rated temperature : 85°C)
Capacitance Tolerance	±20% (at 120Hz)
Dissipation Factor(120Hz)	Refer to the list below (* 1)
E.S.R.(100kHz)	Refer to the list below (* 1)
Leakage Current	After 5 minute's application of rated voltage, leakage current at 20°C is not more than 0.1CV or 0.5µA, whichever is greater.
Damp Heat	At 40°C, 90 ~ 95% R.H., For 500hours (No voltage applied) Capacitance Change ・・・ Refor to the list below (* 1) Dissipation Factor ・・・・・ 150% or less of initial specified value Leakage Current ・・・・・・ 200% or less of initial specified value
Temperature Cycles	At -55°C / +125°C, For 30 minutes each, 5 cycles Capacitance Change ・・・ Refor to the list below (* 1) Dissipation Factor ・・・・・ 150% or less of initial specified value Leakage Current ・・・・・・ Initial specified value or less
Resistance to Soldering Heat	At 260°C, For 10 seconds, Reflow, Capacitance Change ・・・ Refor to the list below (* 1) Leakage Current ・・・・・ Initial specified value or less Leakage Current ・・・・・・ Initial specified value or less
Surge*	After application of surge in series with a 1kΩ resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85°C, capacitors meet the characteristics requirements listed below. Capacitance Change ・・ Refor to the list below (* 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 3Ω resistor at 85°C, capacitors meet the characteristic requirements listed below Capacitance Change ・・・Refor to the list below (* 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±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on an aluminum substrate, there shall be found neither exfoliation nor its sign at the terminal electrode.  5N (0.51kg・f) For 10 ± 1seconds
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 the capacitor, the pressure strength is applied with a specified jig at the center of the substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. 

* As for the surge and derated voltage at 125°C, refer to page 243 for details.

Rated Volt (V)	Rated Capacitance (µF)	Case code	Part Number	Leakage Current (µA)	Disspation Factor (% @120Hz)	E.S.R (Ω@100kHz)	*1ΔC/C (%)
2.5	47	M	F980E476MMA	1.2	30	4	±30
4	22	M	F980G226MMA	0.9	15	8	±30
	33	M	F980G336MMA	1.3	30	4	±30
	68	S	F980G686MSA	2.7	30	6	±30
6.3	4.7	M	F980J475MMA	0.5	20	8	±30
	10	M	F980J106MMA	0.6	8	8	±30
	22	M	F980J226MMA	1.4	20	8	±30
	47	S	F980J476MSA	3.0	25	6	±30
10	2.2	M	F981A225MMA	0.5	20	16	±30
	4.7	M	F981A475MMA	0.5	6	10	±30
	10	M	F981A106MMA	1.0	20	8	±30
	22	S	F981A226MSA	2.2	20	4	±20
	33	S	F981A336MSA	3.3	30	6	±30
16	1	M	F981C105MMA	0.5	6	20	±30
	2.2	M	F981C225MMA	0.5	6	20	±30
	4.7	M	F981C475MMA	0.8	12	12	±20
	10	S	F981C106MSA	1.6	18	4	±20