SOLID TANTALUM ELECTROLYTIC CAPACITORS

nichicon

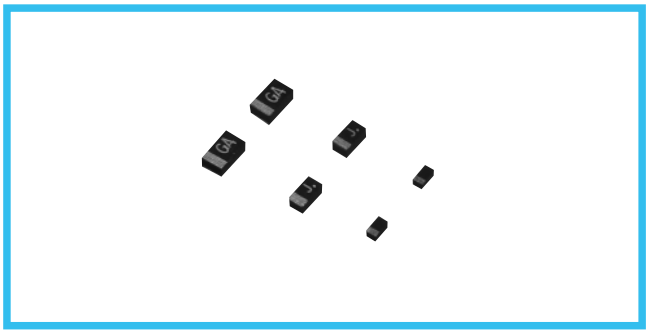
F98 Resin-molded Chip, High Capacitance Series

FRAMELESS™

For SMD | Smaller

Upgrade

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



■Applications

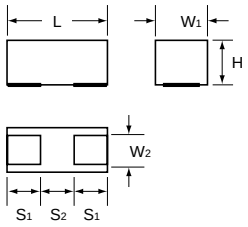
● Smartphone ● Wireless module
● Mobile phone ● Hearing aid

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

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 333 for details)
- Case code
- Capacitance tolerance
- Rated capacitance
- Rated voltage
- Series

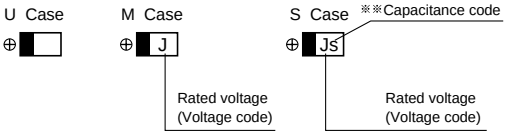
■Drawing



(mm)

Case Code	L	W1	W2	H	S1	S2
U	1.10 ± 0.05	0.60 ± 0.05	0.35 ± 0.05	0.55 ± 0.05	0.3 ± 0.05	0.5 ± 0.05
M	$1.6^{+0.2}_{-0.1}$	$0.85^{+0.2}_{-0.1}$	0.65 ± 0.1	0.8 ± 0.1	0.5 ± 0.1	0.6 ± 0.1
S	$2.0^{+0.2}_{-0.1}$	$1.25^{+0.2}_{-0.1}$	0.9 ± 0.1	0.8 ± 0.1	0.5 ± 0.1	1.0 ± 0.1

■ Marking



■Standard Ratings

Cap.(μF) \ V	Code	4	6.3	10	16	20	25	※※ Capacitance code
		0G	0J	1A	1C	1D	1E	
1	105				M	M	M	–
2.2	225			U・M	M			–
4.7	475	U	U・M	(U)・M	M			–
10	106	U	(U)・M	M	S			a
22	226	M	M	(M)・S				J
33	336	M	M	(M)・S				n
47	476	M	M・S	S				s
68	686	M・S						w
100	107	M・S	S					A
220	227	S						J

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

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

Item	Performance Characteristics
Category Temperature Range	−55 to +125°C (Rated temperature : +85°C)
Capacitance Tolerance	±20% (at 120Hz)
Dissipation Factor	Refer to the table below
ESR	Refer to the table below
Leakage Current	Refer to the table below 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.
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., For 500hours (No voltage applied) Capacitance Change ・・・ Refer to the table 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 ・・・ Refer to the table below (* 1) Dissipation Factor ・・・・・ 150% or less than the initial specified value Leakage Current ・・・・・・ Initial specified value or less
Resistance to Soldering Heat	10 seconds reflow at 260°C, 5 seconds immersion at 260°C Capacitance Change ・・・ Refer to the table 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 shall meet the characteristic requirements listed below. Capacitance Change ・・・ Refer to the table below (* 1) Dissipation Factor ・・・・・ 150% or less than the initial specified value Leakage Current ・・・・・・ 200% or less than the initial specified value
Endurance*	After 1000 hours' application of rated voltage in series with a 3Ω resistor at 85°C, capacitors shall meet the characteristic requirements table below Capacitance Change ・・・Refer to the table below (* 1) Dissipation Factor ・・・・・150% or less than the initial specified value Leakage Current ・・・・・・200% or less than the 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 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 the substrate so that substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. R230 20 1mm 45 45

* As for the surge voltage, refer to page 332 for details.

Rated Volt	Rated Capacitance (μF)	Case code	Part Number	*2 Leakage Current (μA)	Dissipation Factor (%@120Hz)	ESR (Ω@100kHz)	*1 ΔC/C (%)
4V	4.7	U	F980G475MUA	0.5	20	20	±30
	10	U	F980G106MUA	0.8	25	20	±30
	22	M	F980G226MMA	0.9	15	7.5	±30
	33	M	F980G336MMA	1.3	30	4	±30
	47	M	F980G476MMA	1.9	40	8	±30
	68	M	F980G686MMA	27.2	50	10	±30
	68	S	F980G686MSA	2.7	30	4	±30
	100	M	F980G107MMA	80.0	60	10	±30
	100	S	F980G107MSA	4.0	35	4	±30
	220	S	F980G227MSA	132	80	5	±30
6.3V	4.7	U	F980J475MUA	0.6	20	20	±30
	4.7	M	F980J475MMA	0.5	20	7.5	±30
	10	M	F980J106MMA	0.6	8	6	±30
	22	M	F980J226MMA	1.4	20	6	±30
	33	M	F980J336MMA	4.2	35	8	±30
	47	M	F980J476MMA	29.6	45	10	±30
	47	S	F980J476MSA	3.0	25	6	±30
	100	S	F980J107MSA	63.0	50	8	±30
10V	2.2	U	F981A225MUA	0.5	15	15	±30
	2.2	M	F981A225MMA	0.5	6	7.5	±30
	4.7	M	F981A475MMA	0.5	6	6	±30
	10	M	F981A106MMA	1.0	20	7.5	±30
	22	S	F981A226MSA	2.2	20	4	±20
	33	S	F981A336MSA	3.3	30	6	±30
	47	S	F981A476MSA	9.4	35	5	±30
16V	1	M	F981C105MMA	0.5	6	10	±30
	2.2	M	F981C225MMA	0.5	6	10	±30
	4.7	M	F981C475MMA	0.8	12	12	±30
	10	S	F981C106MSA	1.6	18	4	±20
20V	1	M	F981D105MMA	0.5	6	10	±30
25V	1	M	F981E105MMA	0.5	8	10	±30

*2 : Leakage Current
After 5 minute's application of rated voltage, leakage current at 20°C.