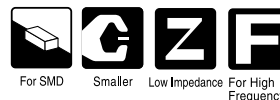


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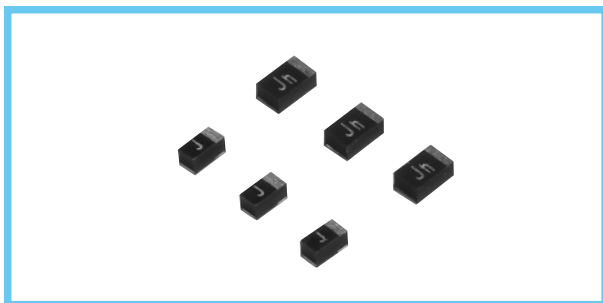
Conductive Polymer
Resin-molded Chip, High Capacitance Series

FRAMELESS™

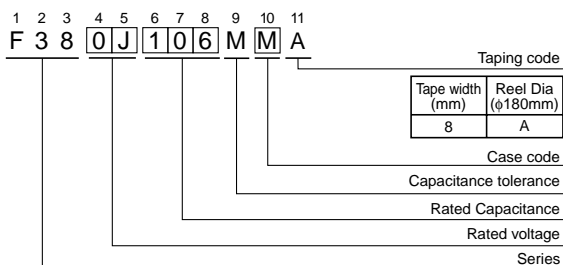


NEW

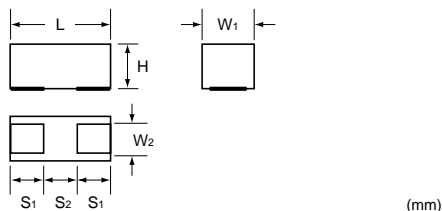
● Adapted to the RoHS directive (2002/95/EC).



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

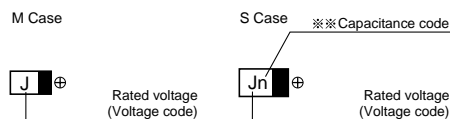


■ Drawing



Case code	L	W ₁	W ₂	H	S ₁	S ₂
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			Capacitance code
		4	6.3	10	
4.7	475	0G	0J	1A	S
10	106	M	M	M·S	a
22	226	M	M·S	(S)	J
33	336	S	S		n
47	476	S	(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.

■ Standard rating

Rated Volt (V)	Rated Capacitance (μF)	Case code	Part Number	Leakage Current (μF)	Dissipation Factor (%@120Hz)	ESR (mΩ@100kHz)	Rated Ripple (mAmps@100kHz)
4	10	M	F380G106MMA	4.0	6	200	350
	22	M	F380G226MMA	8.8	6	200	350
	33	S	F380G336MSA	13.2	6	200	450
	47	S	F380G476MSA	18.8	6	200	450
6.3	10	M	F380J106MMA	6.3	6	200	350
	22	M	F380J226MMA	13.9	6	200	350
	22	S	F380J226MSA	13.9	6	200	450
	33	S	F380J336MSA	20.8	6	200	450
10	4.7	M	F381A475MMA	4.7	6	200	350
	10	M	F381A106MMA	10.0	6	200	350
	10	S	F381A106MSA	10.0	6	200	450

■ Specifications

Item	Performance Characteristics
Category Temperature Range	-55 to +105°C (Rated temperature + 85°C)
Capacitance Tolerance	±20% (120Hz)
Dissipation Factor (at 120Hz)	Refer to the list below
ESR (100kHz)	Refer to the list below
Leakage Current	After 5 minute's application of rated voltage, leakage current at 20°C is not more than 0.1CV
Ripple Current	Refer to the list below
Damp Heat (No voltage applied)	At 60°C, 90 to 95% R.H. 500hours Capacitance Change Within -20 to +30% of initial value Dissipation Factor.....1.5 times initial specified value or less Leakage Current.....Initial specified value or less
Temperature Cycles	-55°C / +105°C 30 minutes each 5 cycle Capacitance Change Within ±20% of initial value Dissipation Factor.....Initial specified value or less Leakage Current.....Initial specified value or less
Resistance to Soldering Heat	Test Condition ; 10 second reflow at 240°C Capacitance Change Within ±20% of initial value Dissipation Factor.....1.3 times initial specified value or less Leakage Current.....Initial specified value or less
Surge	After application of surge voltage 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...Within ±20% of initial value Dissipation Factor.....Initial specified value or less Leakage Current.....Initial specified value or less
Endurance 1	After 1000 hours' application of rated voltage in series with a 3Ω resistor at 85°C. Capacitance Change...Within ±20% of initial value Dissipation Factor...1.5 times initial specified value or less Leakage Current...Initial specified value or less
Endurance 2	After 1000 hours' application of derated voltage in series with a 3Ω resistor at 105°C, capacitors meet the characteristic requirements listed below Capacitance Change...Within ±20% of initial value Dissipation Factor...3 times 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 an aluminum 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 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. R230 20 45 45 1mm

* As for the surge voltage refer to page 301 for details.