SOLID TANTALUM ELECTROLYTIC CAPACITORS

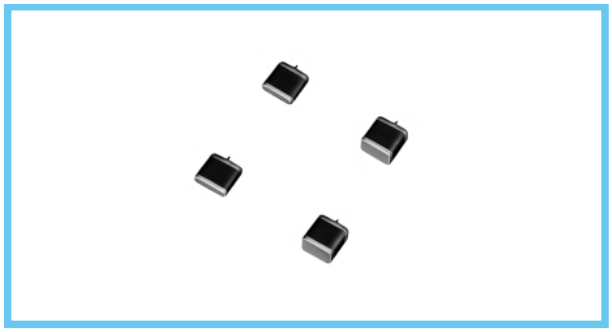
nichicon

F72 Low Profile Conformal coated Chip — Upgrade — F75 Maximum CV Conformal coated Chip

FRAMELESS™

For SMD | Smaller | For High Frequency

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



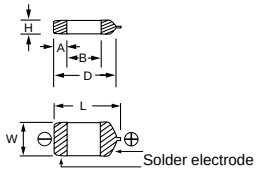
F72

■ Type numbering system (Example : 10V 100µF)

1	2	3	4	5	6	7	8	9	10	11
F	7	2	1	A	1	0	7	M	R	

- 11: Taping code (Refer to page 267 for details)
- 10: Case code
- 9: Capacitance tolerance
- 8, 6, 7: Rated Capacitance
- 4, 5: Rated voltage
- 1, 2, 3: Series

■ Drawing



■ Dimensions

(mm)

Case code	L	W	H	A	B	(D)
R	7.2 ± 0.3	6.0 ± 0.3	1.2 ± 0.3	1.3 ± 0.4	3.8 ± 0.6	(6.2)

D dimension only for reference

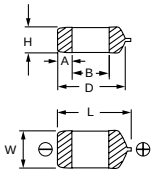
F75

■ Type numbering system (Example : 16V 150µF)

1	2	3	4	5	6	7	8	9	10	11
F	7	5	1	C	1	5	7	M	D	

- 11: Taping code (Refer to page 267 for details)
- 10: Case code
- 9: Capacitance tolerance
- 8, 6, 7: Rated Capacitance
- 4, 5: Rated voltage
- 1, 2, 3: Series

■ Drawing



■ Dimensions

(mm)

Case code	L	W	H	A	B	(D)
C	7.1 ± 0.3	3.2 ± 0.3	2.5 ± 0.3	1.3 ± 0.3	3.6 ± 0.6	(6.0)
D	7.3 ± 0.3	4.3 ± 0.3	2.8 ± 0.3	1.3 ± 0.4	3.9 ± 0.6	(6.4)
R	7.2 ± 0.3	6.0 ± 0.3	3.5 ± 0.3	1.3 ± 0.4	3.8 ± 0.6	(6.2)

D dimension only for reference

■ Standard ratings

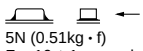
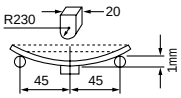
F72

Cap.(µF) \ V	4	6.3	10	16
Code	0G	0J	1A	1C
33 336				R
47 476			R	R
68 686		R	R	R
100 107	R	R	R	
150 157	R	R	R	
220 227	R	R	R	
330 337	R	R	(R)	

F75

Cap. (µF) \ V	4	6.3	10	16
Code	0G	0J	1A	1C
68 686				C
100 107				C
150 157			C	D
220 227		C	C・D	R
330 337	C	C・D	D	
470 477	C・D	D	R	
680 687	D	D・R		
1000 108	D・R	R		
1500 158	R			
2200 228	R			

■ Specifications

Item	Performance Characteristics			
Category Temperature Range	−55 ~ +125˚C (Rated temperature : +85˚C)			
Capacitance Tolerance	±20%, ±10% (at 120Hz)			
Dissipation Factor (120Hz)	F72		F75	
	33~68µF	6%Max.	68~330µF	10%Max.
	100µF~	8%Max.	470µF	14%Max.
	150µF	10%Max.	680µF	18%Max.
	220µF~330µF	12%Max.	1000µF	24%Max.
			1500µF	30%Max.
			2200µF	45%Max.
ESR (100kHz)	33µF	0.90Ω	~150µF	0.22Ω
	47µF	0.80Ω	220µF	0.20Ω
	68µF	0.75Ω	330µF	0.15Ω
	100µF~	0.70Ω	470~1500µF	0.12Ω
			2200µF	0.07Ω
Leakage Current	• After 1 minute's application of rated voltage, leakage current at 20˚C is not more than 0.01CV or 0.5µA, whichever is greater. • After 1 minute's application of rated voltage, leakage current at 85˚C is not more than 0.1CV or 5µA, whichever is greater. • After 1 minute's application of derated voltage, leakage current at 125˚C is not more than 0.125CV or 6.3µA, whichever is greater.			
Capacitance Change by Temperature	+15% Max. (at +125˚C) +10% Max. (at +85˚C) −10% Max. (at −55˚C)			
Damp Heat	At 40˚C, 90~95% R.H., For 500 hours (No voltage applied) Capacitance Change ..... Within ±10% of initial value Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less			
Temperature Cycles	At −55˚C / +125˚C, 30 minutes each, For 5 cycles, Capacitance Change ..... Within ±5% of initial value Dissipation Factor ..... Initial specified value or less Leakage Currentv ..... Initial specified value or less			
Resistance to Soldering Heat	Reflow at 260˚C for 10 seconds, Dipping Flow at 260˚C for 10 seconds Capacitance Change ..... Within ±5% of initial value Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less			
Surge*	After application of surge in series with a 33Ω 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 ±5% of initial value 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, or derated voltage at 125˚C, capacitors meet the characteristic requirements listed below. Capacitance Change ..... Within ±10% of initial value 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 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 1mm 45 45		

* As for the surge and derated voltage at 125˚C, refer to page 266 for details.