SOLID TANTALUM ELECTROLYTIC CAPACITORS

nichicon

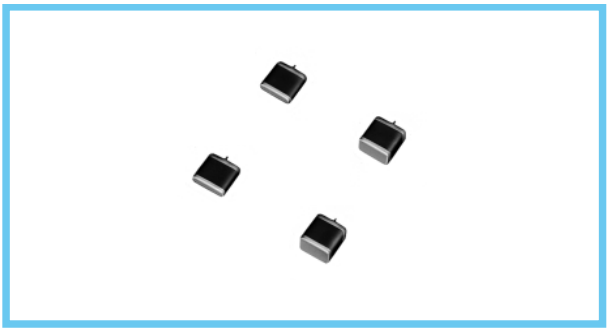
F72 Low Profile Conformal coated Chip

F75 Maximum CV Conformal coated Chip

FRAMELESS™ Upgrade

For SMD | Smaller | For High Frequency

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



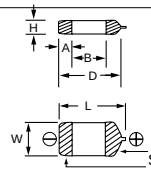
F72

■ 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	

Taping code (Refer to page 321 for details)
Case code
Capacitance tolerance
Rated capacitance
Rated voltage
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)
M	7.2±0.3	6.0±0.3	2.0MAX.	1.3±0.4	3.8±0.6	(6.2)

D dimension only for reference

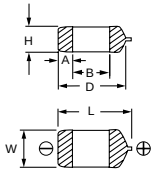
F75

■ 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	

Taping code (Refer to page 321 for details)
Case code
Capacitance tolerance
Rated capacitance
Rated voltage
Series

■ Drawing



■ Dimensions

(mm)

Case code	L	W	H	A	B	(D)
U	7.1 ± 0.3	3.2 ± 0.3	2.0MAX.	1.3 ± 0.3	3.6 ± 0.6	(6.0)
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	Code	4	6.3	10	16
		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)	
470	477			M	
680	687			(M)	
1000	108		M	(M)	
1500	158		M		

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

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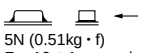
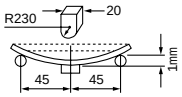
Cap. (µF) \ V	Code	4	6.3	10	16
		0G	0J	1A	1C
68	686				C
100	107				C
150	157			C	D
220	227		C	C・D	R
330	337	C	C・D	D	
470	477	C・D	U・D	R	
680	687	D	D・R		
1000	108	D・R	R		
1500	158	R			
2200	228	R			

■ Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +125˚C (Rated temperature : +85˚C)
Capacitance Tolerance	±20%, ±10% (at 120Hz)
Dissipation Factor (120Hz)	Refer to next page
ESR (100kHz)	Refer to next page
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 (Steady State)	At 40˚C, 90 to 95% R.H., For 500 hours (No voltage applied) Capacitance Change ····· Refer to * 1 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 ····· Refer to * 1 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 ····· Refer to * 1 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 ····· Refer to * 1 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 ····· Refer to * 1 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 45 45 1mm

* As for the surge and derated voltage at 125˚C, refer to page 320 for details.

CAT.8100Z

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■ Standard Ratings

Rated Volt	Rated Capacitance (μF)	Case code	Part Number	Leakage Current (μA)	Disspation Factor (%@120Hz)	ESR (Ω@100kHz)	*1 ΔC/C (%)
4V	100	R	F720G107MRC	4.0	8	0.70	*
	150	R	F720G157MRC	6.0	10	0.70	*
	220	R	F720G227MRC	8.8	12	0.70	*
	330	R	F720G337MRC	13.2	12	0.70	*
6.3V	68	R	F720J686MRC	4.3	6	0.75	*
	100	R	F720J107MRC	6.3	8	0.70	*
	150	R	F720J157MRC	9.5	10	0.70	*
	220	R	F720J227MRC	13.9	12	0.70	*
	330	R	F720J337MRC	20.8	12	0.70	*
	1000	M	F720J108MMC	63.0	30	0.14	±15
	1500	M	F720J158MMC	95.0	45	0.14	±20
10V	47	R	F721A476MRC	4.7	6	0.80	*
	68	R	F721A686MRC	6.8	6	0.75	*
	100	R	F721A107MRC	10.0	8	0.70	*
	150	R	F721A157MRC	15.0	10	0.70	*
	220	R	F721A227MRC	22.0	12	0.70	*
	470	M	F721A477MMC	47.0	30	0.14	±15
16V	33	R	F721C336MRC	5.3	6	0.90	*
	47	R	F721C476MRC	7.5	6	0.80	*
	68	R	F721C686MRC	10.9	6	0.75	*

*1 : ΔC/C

	F72 Case (%)
Damp Heat	±10
Tempereature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

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■ Standard Ratings

Rated Volt	Rated Capacitance (μF)	Case code	Part Number	Leakage Current (μA)	Disspation Factor (%@120Hz)	ESR (Ω@100kHz)	*1 ΔC/C (%)
4V	330	C	F750G337MCC	13.2	10	0.15	*
	470	C	F750G477MCC	18.8	14	0.12	*
	470	D	F750G477MDC	18.8	14	0.12	*
	680	D	F750G687MDC	27.2	18	0.12	*
	1000	D	F750G108MDC	40.0	24	0.12	*
	1000	R	F750G108MRC	40.0	24	0.12	*
	1500	R	F750G158MRC	60.0	30	0.12	*
	2200	R	F750G228MRC	88.0	45	0.07	*
6.3V	220	C	F750J227MCC	13.9	10	0.20	*
	330	C	F750J337MCC	20.8	10	0.15	*
	330	D	F750J337MDC	20.8	10	0.15	*
	470	U	F750J477MUC	29.6	15	0.10	*
	470	D	F750J477MDC	29.6	14	0.12	*
	680	D	F750J687MDC	42.8	18	0.12	*
	680	R	F750J687MRC	42.8	18	0.12	*
	1000	R	F750J108MRC	63.0	24	0.12	*
10V	150	C	F751A157MCC	15.0	10	0.22	*
	220	C	F751A227MCC	22.0	10	0.20	*
	220	D	F751A227MDC	22.0	10	0.20	*
	330	D	F751A337MDC	33.0	10	0.15	*
	470	R	F751A477MRC	47.0	14	0.12	*
16V	68	C	F751C686MCC	10.9	10	0.22	*
	100	C	F751C107MCC	16.0	10	0.22	*
	150	D	F751C157MDC	24.0	10	0.22	*
	220	R	F751C227MRC	35.2	10	0.20	*

*1 : ΔC/C

	F75 Case (%)
Damp Heat	±10
Tempereature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10