FT Series

The FT series Super Capacitors are ideal as short-time (30 minutes max.) backup devices in small and lightweight systems. 5.5 VDC (0.10 F to 5.6 F)

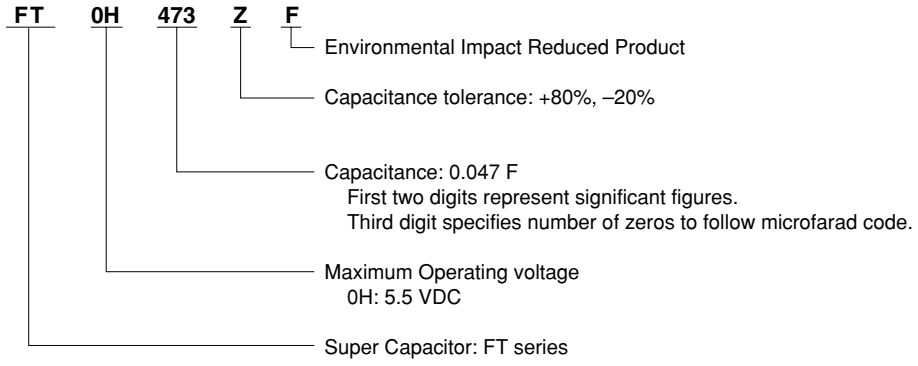
Features

- Wide operating temperature range: –40˚C to 85˚C
- High reliability Cload life of 85˚C, 5.5V, 1000 hours guaranteed
- Ideal for supplying current of several hundred μA to several mA for short time

Applications

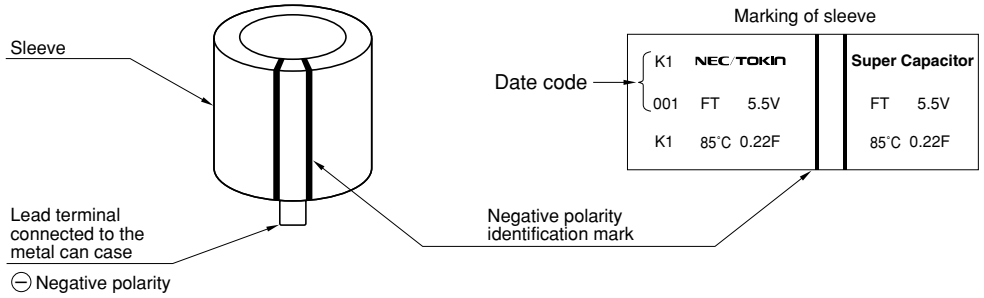
- Backup source for microcomputers and buffer for momentary high-current loads (for example, motors)

Part Number System

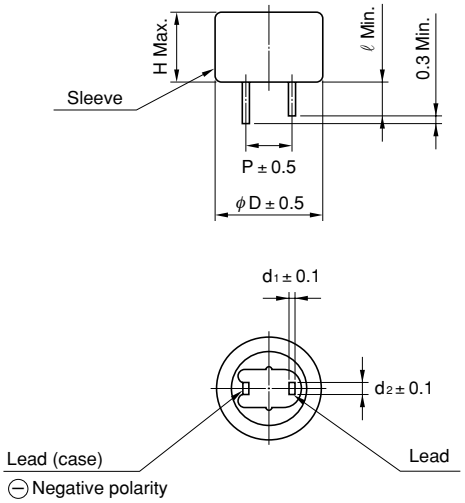


2007.08.03 P0862SUCA16VOL07E

Markings



Dimensions



Part No.	Dimensions mm (inch)						Weight (g) (oz)
	D	H	P	d_1	d_2	ℓ	
FT0H104ZF	11.5 (0.453)	8.5 (0.335)	5.08 (0.2)	0.4 (0.016)	1.2 (0.047)	2.7 (0.106)	1.6 (0.057)
FT0H224ZF	14.5 (0.57)	12.0 (0.47)	5.08 (0.2)	0.4 (0.016)	1.2 (0.047)	2.2 (0.087)	4.1 (0.145)
FT0H474ZF	16.5 (0.65)	13.0 (0.512)	5.08 (0.2)	0.4 (0.016)	1.2 (0.047)	2.7 (0.106)	5.3 (0.187)
FT0H105ZF	21.5 (0.85)	13.0 (0.512)	7.62 (0.3)	0.6 (0.024)	1.2 (0.047)	3.0 (0.118)	10.0 (0.353)
FT0H225ZF	28.5 (1.12)	14.0 (0.55)	10.16 (0.4)	0.6 (0.024)	1.4 (0.055)	6.1 (0.240)	18.0 (0.635)
FT0H335ZF	36.5 (1.44)	15.0 (0.588)	15.00 (0.59)	0.6 (0.024)	1.7 (0.067)	6.1 (0.240)	38.0 (1.34)
FT0H565ZF	44.5 (1.75)	17.0 (0.67)	20.00 (0.79)	1.0 (0.039)	1.4 (0.055)	6.1 (0.240)	72.0 (2.54)

Note: Weight is typical.

Standard Ratings

Part Number	Max. Operating Voltage (V)	Nominal Capacitance Charge System (F)	Nominal Capacitance Discharge System (F)	Max. ESR (at 1 kHz) (Ω)	Max. Current at 30 minutes (mA)
FT0H104ZF	5.5	0.10	0.14	less than 16	less than 0.15
FT0H224ZF	5.5	0.22	0.28	less than 10	less than 0.33
FT0H474ZF	5.5	0.47	0.60	less than 6.5	less than 0.71
FT0H105ZF	5.5	1.0	1.3	less than 3.5	less than 1.5
FT0H225ZF	5.5	2.2	2.8	less than 1.8	less than 3.3
FT0H335ZF	5.5	3.3	4.2	less than 1.0	less than 5.0
FT0H565ZF	5.5	5.6	7.2	less than 0.6	less than 8.4

Specifications: FT Series

Item		Specifications		Test Conditions Conforming to JIS C 5102-1994
Operating Temperature Range		–40˚C to +85˚C		
Maximum Operating Voltage		5.5 Vdc		
Nominal Capacitance Range		Refer to standard ratings		
Capacitance Allowance		+80 %, –20 %		Refer to characteristics measuring conditions
Equivalent Series Resistance		Refer to standard ratings		Refer to characteristics measuring conditions
Current (30-minute value)		Refer to standard ratings		Refer to characteristics measuring conditions
Surge Voltage		Capacitance	More than 90 % of initial requirement	Conforms to 7.14 At 85˚C Surge voltage 6.3 V Charge: 30 sec. Discharge: 9 min. 30 sec. 1000 cycles Charge resistance: 0.10 F 150 Ω 0.22 F 56 Ω 0.47 F 30 Ω 1.0 F 15 Ω 2.2 F 10 Ω 3.3 F 10 Ω 5.6 F 10 Ω Discharge resistance: Not applicable (0 Ω)
		Equivalent Series Resistance	Not to exceed 120 % of initial requirement	
		Current at 30 minutes	Not to exceed 120 % of initial requirement	
Temperature Variation of Characteristics	Phase 2	Capacitance	More than 50 % of initial value	Conforms to 7.12 Phase 1: +25±2˚C Phase 2: –25±2˚C Phase 3: –40±2˚C Phase 4: +25±2˚C Phase 5: +85±2˚C Phase 6: +25±2˚C
		Equivalent Series Resistance	Not to exceed 3 times initial value	
	Phase 3	Capacitance	More than 30 % of initial value	
		Equivalent Series Resistance	Not to exceed 7 times initial value	
	Phase 5	Capacitance	Not to exceed 150 % of initial value	
		Equivalent Series Resistance	Not to exceed initial requirement	
		Current at 30 minutes	Not to exceed 1.5 CV (mA)	
	Phase 6	ΔC/C	Within ±20 % of initial value	
		Equivalent Series Resistance	Not to exceed initial requirement	
		Current at 30 minutes	Not to exceed initial requirement	
Lead Strength (Tensile)		No loosening nor permanent damage of the leads		Conforms to 8.1.2(1) 0.022 to 0.47 F: 1 kg, 10 sec. 1 F: 2.5 kg, 10 sec.
Vibration Resistance		Capacitance	Meet initial requirement	Conforms to 8.2.3 Frequency: 10 to 55 Hz Test duration: 6 hours
		Equivalent Series Resistance	Meet initial requirement	
		Current at 30 minutes	Meet initial requirement	
Solderability		3/4 or more of the pin surface should be covered with new solder		Conforms to 8.4 245 ±5˚C 5 ±0.5 sec. 1.6 mm from body
Soldering Heat Resistance		Capacitance	Meet initial requirement	Conforms to 8.5 260 ±10˚C, 10 ±1 sec. Immersion depth: 1.6 mm from body
		Equivalent Series Resistance	Meet initial requirement	
		Current at 30 minutes	Meet initial requirement	
Temperature Cycle		Capacitance	Meet initial requirement	Conforms to 9.3 Temperatuve condition: –40˚C → Normai temperature → +85˚C→ Normai temperature Number of cycles : 5 cycles
		Equivalent Series Resistance	Meet initial requirement	
		Current at 30 minutes	Meet initial requirement	
Humidity Resistance		Capacitance	Within ±20% of initial value	Conforms to 9.5 40 ±2˚C, 90 to 95% RH 240 ± 8 hours
		Equivalent Series Resistance	Not to exceed120 % of initial requirement	
		Current at 30 minutes	Not to exceed120 % of initial requirement	
High temperature Load		Capacitance change	Within ±30% of initial value	Conforms to 9.10 Temperature: 85 ± 2°C Series resistance: 0 Ω Applied voltage: 5.5 VDC Time of test: 1000^{+48}_{-0} hours
		Equivalent Series Resistance	Not to exceed 200% of initial requirement	
		Current at 30 minutes	Not to exceed 200% of initial requirement	

2007.08.03 P0862SUCA16VOL07E