

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)

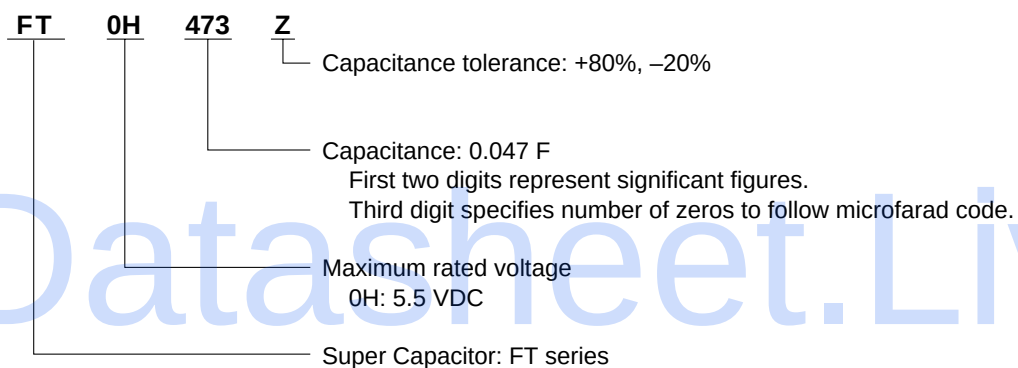
Features

- Ideal for supplying current of several hundred μ A to several mA for short time

Applications

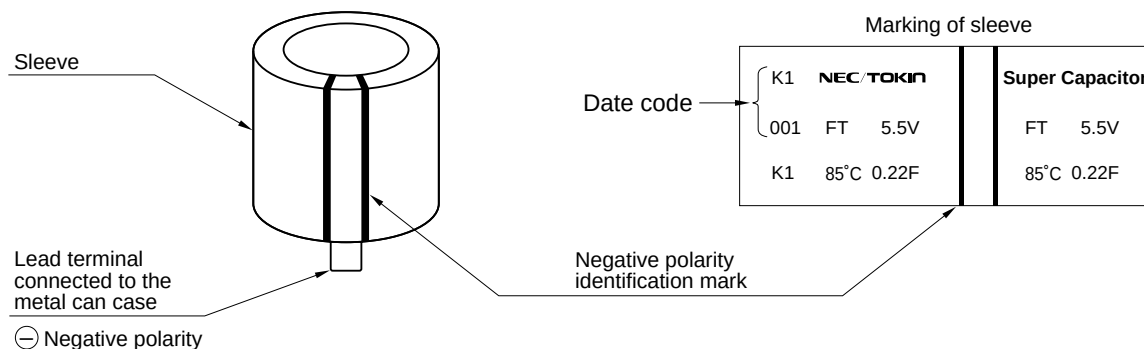
- Backup source for microcomputers and buffer for momentary high-current loads (for example, motors)

Part Number System

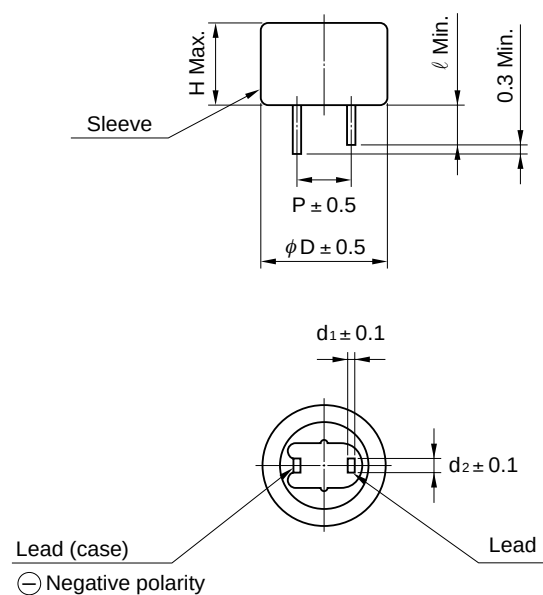


Markings

Markings are made with black ink on the green sleeve.



Dimensions and Standard Ratings



Part No.	Dimensions mm (inch)						Weight (g) (oz)
	D	H	P	d ₁	d ₂	ℓ	
FT0H104Z	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)
FT0H224Z	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)
FT0H474Z	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)
FT0H105Z	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)
FT0H225Z	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)
FT0H335Z	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)
FT0H565Z	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.

Part Number	Max. Rated Voltage (V)	Nominal Capacitance		Max. ESR (at 1 kHz) (Ω)	Max. Current at 30 minutes (mA)
		Charge System (F)	Discharge System (F)		
FT0H104Z	5.5	0.10	0.14	less than 16	less than 0.15
FT0H224Z	5.5	0.22	0.28	less than 10	less than 0.33
FT0H474Z	5.5	0.47	0.60	less than 6.5	less than 0.71
FT0H105Z	5.5	1.0	1.3	less than 3.5	less than 1.5
FT0H225Z	5.5	2.2	2.8	less than 1.8	less than 3.3
FT0H335Z	5.5	3.3	4.2	less than 1.0	less than 5.0
FT0H565Z	5.5	5.6	7.2	less than 0.6	less than 8.4

Specifications

Item		Specification		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		0.1 to 5.6 F (Refer to standard ratings)		
Capacitance Allowance		+80 %, −20 %		See characteristics measuring conditions
Equivalent Series Resistance		See standard list		See characteristics measuring conditions
Current (30-minute value)		See standard list		See characteristics measuring conditions
Surge Voltage		Capacitance	More than 90 % of initial requirement	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
		Equivalent Series Resistance	Not to exceed 3 times initial value	Phase 1: +25±2°C
	Phase 3	Capacitance	More than 30 % of initial value	Phase 2: −25±2°C
		Equivalent Series Resistance	Not to exceed 7 times initial value	Phase 3: −40±2°C
	Phase 5	Capacitance	Not to exceed 150 % of initial value	Phase 4: +25±2°C
		Equivalent Series Resistance	Not to exceed initial requirement	Phase 5: +85±2°C
		Current at 30 minutes	Not to exceed 1.5 CV (mA)	Phase 6: +25±2°C
	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
		Equivalent Series Resistance	Meet initial requirement	Frequency: 10 to 55 Hz
		Current at 30 minutes	Meet initial requirement	Test duration: 6 hours
Solderability		3/4 or more of the pin surface should be covered with new solder		Conforms to 8.4 230 ±5°C 5 ±0.5 sec. 1.6 mm from body
Soldering Heat Resistance		Capacitance	Meet initial requirement	Conforms to 8.5
		Equivalent Series Resistance	Meet initial requirement	260 ±10°C, 10 ±1 sec.
		Current at 30 minutes	Meet initial requirement	Immersion depth: 1.6 mm from body
Temperature Cycle		Capacitance	Meet initial requirement	Conforms to 9.3
		Equivalent Series Resistance	Meet initial requirement	Temperature condition: −40°C → Normal temperature → +85°C→ Normal temperature
		Current at 30 minutes	Meet initial requirement	Number of cycles : 5 cycles
Humidity Resistance		Capacitance	Within ±20% of initial value	Conforms to 9.5
		Equivalent Series Resistance	Not to exceed120 % of initial requirement	40 ±2°C, 90 to 95% RH
		Current at 30 minutes	Not to exceed120 % of initial requirement	240 ±8 hours
High Temperature Load		Capacitance change	Within ±30% of initial value	Conforms to 9.10
		Equivalent Series Resistance	Not to exceed 200% of initial requirement	Temperature: 85 ± 2°C
		Current at 30 minutes	Not to exceed 200% of initial requirement	Series resistance: 0 Ω Applied voltage: 5.5 VDC Time of test: 1000 ⁺⁴⁸ hours