

FA Series for Large Backup Current Capacitors

The FA series is suitable for supplying a large current in a short time.

These capacitors are ideal for momentarily backing up a high-current, short-time load in an electronic system (in the event of momentary power failure).

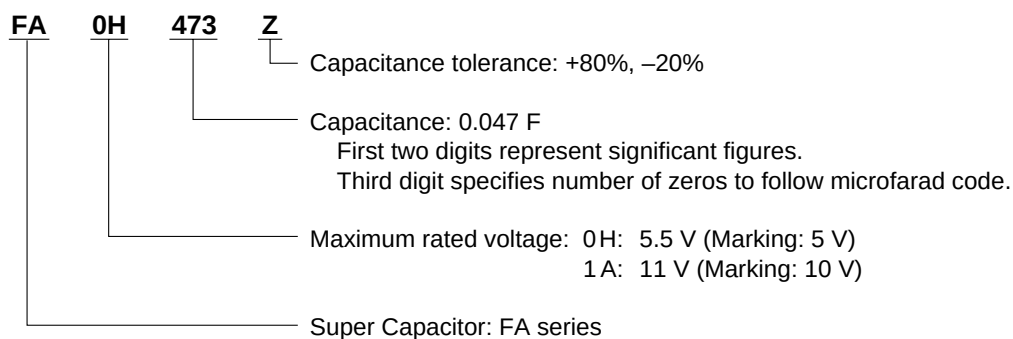
Features

- Extremely low equivalent series resistance (ESR) ideal for supplying backup current of 10 mA to 1 A for a short time
- High breakdown voltage (maximum operating voltage: 11 V) that can drive microcomputers and actuators

Applications

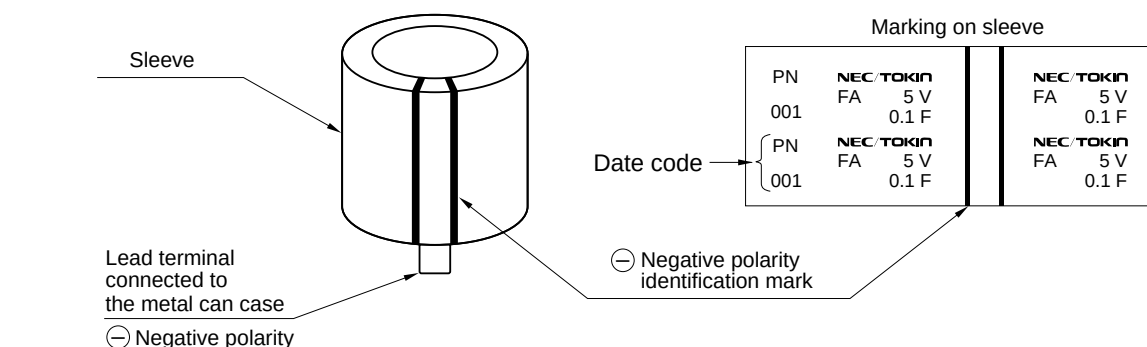
Momentary backup of microcomputers and DRAMs and auxiliary power supply of mechanical systems (motors, relays, electromagnetic valves)

Part Number System

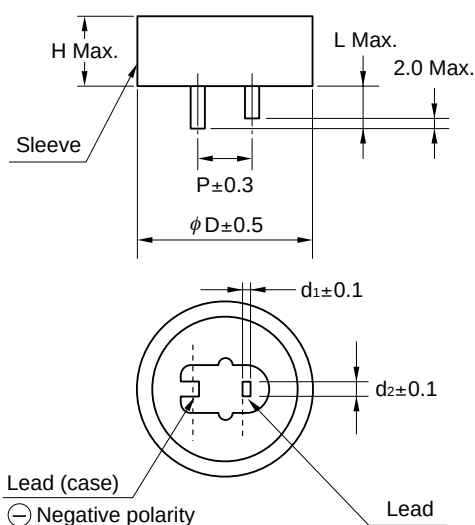


Markings

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	
FA0H473Z	16.0 (0.630)	15.5 (0.610)	5.1 (0.2)	0.4 (0.016)	1.2 (0.047)	5.0 (0.197)	6.2 (0.219)
FA0H104Z	21.5 (0.846)	15.5 (0.610)	7.6 (0.3)	0.6 (0.024)	1.2 (0.047)	5.5 (0.217)	12 (0.423)
FA0H224Z	28.5 (1.122)	16.5 (0.650)	10.2 (0.4)	0.6 (0.024)	1.4 (0.055)	9.5 (0.374)	25 (0.882)
FA0H474Z	36.5 (1.437)	16.5 (0.650)	15 (0.591)	0.6 (0.024)	1.7 (0.067)	9.5 (0.374)	42 (1.482)
FA0H105Z	44.5 (1.752)	18.5 (0.728)	20 (0.787)	1.0 (0.039)	1.4 (0.055)	9.5 (0.374)	65 (2.293)
FA1A223Z	16.0 (0.630)	25.0 (0.984)	5.1 (0.2)	0.4 (0.016)	1.2 (0.047)	5.0 (0.197)	7.5 (0.265)
FA1A104Z	28.5 (1.122)	25.5 (1.004)	10.2 (0.4)	0.6 (0.024)	1.4 (0.055)	9.5 (0.374)	32 (1.129)
FA1A224Z	36.5 (1.437)	27.5 (1.083)	15 (0.591)	1.0 (0.039)	1.4 (0.055)	9.5 (0.374)	55 (1.940)
FA1A474Z	44.5 (1.752)	28.5 (1.122)	20 (0.787)	1.0 (0.039)	1.4 (0.055)	9.5 (0.374)	83 (2.928)

Note: Weight values are typical.

Part Number	Max. Rated Voltage (VDC)	Nominal Capacitance		Max. Current at 30 minutes (mA)	Max. ESR (at 1 kHz) (Ω)
		Charge System (F)	Discharge System (F)		
FA0H473Z	5.5	0.047	0.075	0.071	20
FA0H104Z	5.5	0.1	0.16	0.15	8
FA0H224Z	5.5	0.22	0.35	0.33	5
FA0H474Z	5.5	0.47	0.75	0.71	3.5
FA0H105Z	5.5	1.0	1.6	1.5	2.5
FA1A223Z	11	0.022	0.035	0.066	20
FA1A104Z	11	0.1	0.16	0.30	8
FA1A224Z	11	0.22	0.35	0.66	6
FA1A474Z	11	0.47	0.75	1.41	4

Specifications

Item		Specification		Test Conditions Conforming to JIS C 5102-1994						
Operating Temperature Range		-25°C to 70°C								
Maximun Rated Voltage		5.5 VDC, 11.0 VDC								
Nominal Capacitance Range		0.047 to 1.0 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						
Temperature Variation of Characteristics	At min. temp. (-25°C) Step 2)	Capacitance	More than 70 % of initial value	Conforms to 7.14						
		Equivalent Series Resistance	Not to exceed 3 times initial value	Phase 1 : +25±2.0°C						
				Phase 2 : -25±2.0°C						
	At max. temp. (+70°C) Step 4)	Capacitance	Not to exceed 150 % of initial value	Phase 3 : +25±2.0°C						
		Equivalent Series Resistance	Not to exceed initial requirement	Phase 4 : +70±2.0°C						
		Current at 30 minutes	Not to exceed 1.5 CV (mA)	Phase 5 : +25±2.0°C						
	At room temp. (+25°C) Step 5)	Capacitance	Not to change more than ±20 % from initial value							
		Equivalent Series Resistance	Not to exceed initial requirement							
		Current at 30 minutes	Not to exceed initial requirement							
Lead Strength (Tensile)		No loosening or permanent damage of the leads		Conforms to 8.1.2 (1) <table><tr><td rowspan="2">5.5 VDC</td><td>0.047 F to 0.22 F: 1 kg 10 sec</td></tr><tr><td>0.47 F to 1.0 F: 2.5 kg 10 sec</td></tr><tr><td rowspan="2">11 VDC</td><td>0.022 F to 0.1 F: 1 kg 10 sec</td></tr><tr><td>0.22 F to 0.47 F: 2.5 kg 10 sec</td></tr></table>	5.5 VDC	0.047 F to 0.22 F: 1 kg 10 sec	0.47 F to 1.0 F: 2.5 kg 10 sec	11 VDC	0.022 F to 0.1 F: 1 kg 10 sec	0.22 F to 0.47 F: 2.5 kg 10 sec
5.5 VDC	0.047 F to 0.22 F: 1 kg 10 sec									
	0.47 F to 1.0 F: 2.5 kg 10 sec									
11 VDC	0.022 F to 0.1 F: 1 kg 10 sec									
	0.22 F to 0.47 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. Immersion depth: 2.5 mm from body						
Soldering Heat Resistance		Capacitance	Meet initial requirement	Conforms to 8.5 260 ±10°C, 10 ±1 sec. Immersion depth: 2.5 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 Temperature conition: -25°C → normal temperature →+70°C normal temperature Number of cycles : 5 cycles						
		Equivalent Series Resistance	Meet initial requirement							
		Current at 30 minutes	Meet initial requirement							
Humidity Resistance		Capacitance	More than 90 % of initial requirement	Conforms to 9.5						
		Equivalent Series Resistance	Not to exceed 120 % of initial requirement	40 ±2°C, 90 to 95 % RH						
		Current at 30 minutes	Not to exceed 120 % of initial requirement	240 ± 8 hours						
High Temperature Load		Capacitance	More than 85 % of initial requirement	Conforms to 9.10 70 ±2°C						
		Equivalent Series Resistance	Not to exceed 120 % of initial requirement	5.5 V applied for 5 V type 11 V applied for 10 V type						
		Current at 30 minutes	Not to exceed 200 % of initial requirement	1 000 ⁺⁴⁸ ₋₀ hours						