Features

- Low ESR with high energy density
- 5.0 Volts
- High capacitance
- Long cycle life
- Low leakage currents
- UL Recognized

Applications

- Pulse Power
- Bridge or hold-up power

Description

Eaton supercapacitors are unique, ultra-high capacitance devices utilizing electrochemical double layer capacitor (EDLC) construction combined with new, high performance materials. This combination of advanced technologies allows Eaton to offer a wide variety of capacitor solutions tailored to specific applications that range from a few micro-amps for several days to several amps for milliseconds .

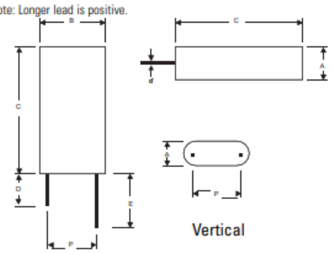
Ratings

Capacitance	0.1 F to 3.0 F
Maximum working voltage	5.0 V
Surge voltage	5.5 V
Capacitance tolerance	-20% to +80% (+20 °C)
Operating temperature range	-40 °C to +60 °C
Extended temperature range	-40 °C to +85 °C (Maximum working voltage 3.9 V)

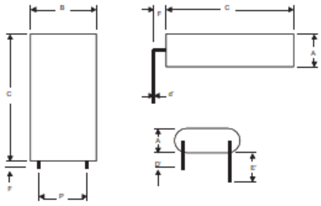
Specifications

Capacitance (F)	Vertical part number	Horizontal part number	Nominal ESR (Ω) (Equivalent Series Resistance) measured @ 1 kHz	100 Hz	Nominal leakage current (μA) after 100 hours @ 5.0 V, +20 °C	Nominal dimensions (mm)	Typical mass (grams/piece)
0.1	PA-5R0V104-R	PA-5R0H104-R	2.0	2.0	3	5.5 x 10.8 x 12.5	1.1
0.47	PA-5R0V474-R	PA-5R0H474-R	0.42	0.50	8	8.5 x 16.8 x 14.0	2.4
1.0	PA-5R0V105-R	PA-5R0H105-R	0.15	0.20	10	8.5 x 16.8 x 21.5	3.5
1.5	PA-5R0V155-R	PA-5R0H155-R	0.07	0.10	15	10.5 x 20.8 x 22.5	5.4
3.0	PA-5R0V305-R	PA-5R0H305-R	0.05	0.07	20	10.5 x 20.8 x 32	7.8

Note: Longer lead is positive.



Vertical



Horizontal

Part marking

- Manufacturer
- Capacitance (F)
- Maximum operating voltage (V)
- Family code (or part number)
- Polarity

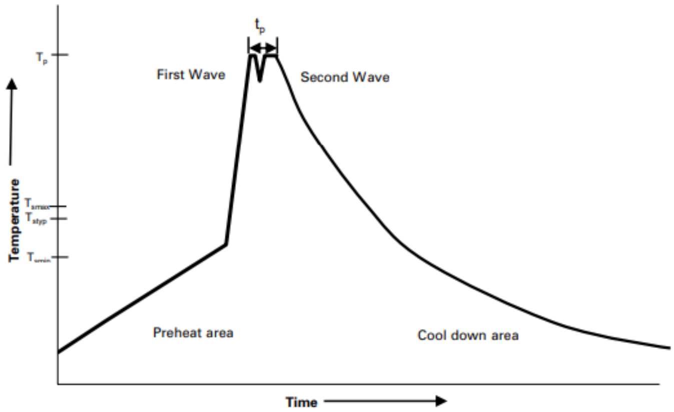
Part numbering system

P	M	–	5 R 0	V	47		–	R
Family code			Voltage (V) R = Decimal	Configuration	Capacitance (μF) Value	Multiplier		Standard product
P = Pack	M = Version		5R0 = 5.0 V	V = Vertical H = Horizontal	Example: 474 = 47 x 10^4 μF or 0.47F			

Packaging information

- Standard packaging: Bulk, 100 units per package
- Large, bulk packages available on request

Wave solder profile



Profile Feature		Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and soak	• Temperature max. (T_{smax})	100 °C	100 °C
	• Time max.	60 seconds	60 seconds
Δ preheat to max Temperature		160 °C max.	160 °C max.
Peak temperature (Tp)*		220 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (t_p)		10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate		~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max
Time 25 °C to 25 °C		4 minutes	4 minutes