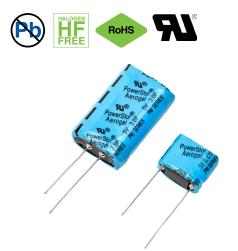
Effective January 2019 Supersedes October 2016

PM Supercapacitors Cylindrical pack



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 .



Technical Data 4308 Effective January 2019

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

Vertical par Capacitance (F) number		Horizontal part	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)	
					+20 C		(grams/piece)	
0.1	PM-5R0V104-R	PM-5R0H104-R	2.0	2.0	3	5.5 x 10.8 x 12.5	1.1	
0.47	PM-5R0V474-R	PM-5R0H474-R	0.42	0.50	8	8.5 x 16.8 x 14.0	2.4	
1.0	PM-5R0V105-R	PM-5R0H105-R	0.15	0.20	10	8.5 x 16.8 x 21.5	3.5	
1.5	PM-5R0V155-R	PM-5R0H155-R	0.07	0.10	15	10.5 x 20.8 x 22.5	5.4	
3.0	PM-5R0V305-R	PM-5R0H305-R	0.05	0.07	20	10.5 x 20.8 x 32	7.8	

Performance

Parameter	Capacitance change (% of initial value)	ESR (% of max. initial value)
Life (1000 hours @ +60 °C @ 5 Vdc)	≤ 30%	≤ 200%
Storage - Low and High Temperature (1000 hours @ -40 °C and +60 °C)	≤ 30%	≤ 200%

Dimensions (mm)

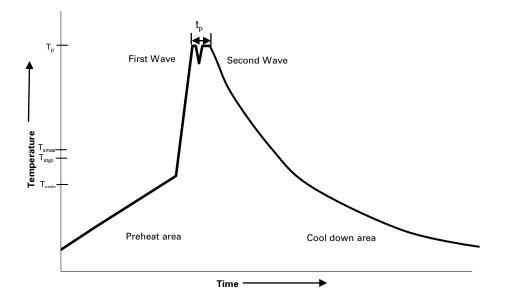
Vertical part number	Horizont	al part	number	Α	в	С	ď	D	D'	Е	E'	F	Р
PM-5R0V104-R	PM-5R0H	104-R		6.0	11.3	13.0	0.5	20	15	25	20	2.0	7.3
PM-5R0V474-R	PM-5R0H	474-R		9.0	17.3	14.5	0.5	2.0	15	25	20	2.0	11.8
PM-5R0V105-R	PM-5R0H	105-R		9.0	17.3	22.0	0.5	20	15	25	20	2.0	11.8
PM-5R0V155-R	PM-5R0H	155-R		11.0	21.3	23.0	0.6	20	15	25	20	2.0	5.3
PM-5R0V305-R	PM-5R0H	305-R		11.0	21.3	32.5	0.6	20	15	25	20	2.0	5.3
	Tolerances			Maxim	Maximum		±0.02 Minimum					±0.5	
	↓ d d d v v v v v v v v v v v v v					, de la constant de	izontal) F ¥		CaMFa	lanufac [:] apacitar laximur	turer nce (F) n operati	ng voltage (\ art number)
Part numbering sys	tem					-							
P M		5	R 0	v		47	·. / F)					— F	
Family code		Family code Voltage (V) R = Decimal		L Con	Configuration		itance (µF)			- 1		S	tandard

Family code		Voltage (V) R = Decimal		Configuration	Capacitance (µF)			Standard
				Connyulation	Value	Multiplier		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 packageLarge, bulk packages available on request

Wave solder profile



Standard SnPb Solder	Lead (Pb) Free Solder		
100 °C	100 °C		
60 seconds	60 seconds		
160 °C max.	160 °C max.		
220 °C – 260 °C	250 °C – 260 °C		
10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave		
~ 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		
4 minutes	4 minutes		
	100 °C 60 seconds 160 °C max. 220 °C - 260 °C 10 seconds max 5 seconds max each wave ~ 2 K/s min ~3.5 K/s typ ~5 K/s max		

Manual solder

+350 °C, 4-5 seconds. (by soldering iron), generally manual, hand soldering is not recommended.

Reflow soldering

Do not use reflow soldering using infrared or convection oven heating methods.

Cleaning/Washing

Avoid cleaning of circuit boards, however if the circuit board must be cleaned use static or ultrasonic immersion in a standard circuit board cleaning fluid for no more than 5 minutes and a maximum temperature of +60 °C. Afterwards thoroughly rinse and dry the circuit boards. In general, treat supercapacitors in the same manner you would an aluminum electrolytic capacitor.

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