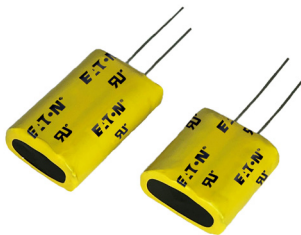


High-reliability, ultra-high capacitance energy storage for industrial applications



Product description

Eaton PTV supercapacitors provide ultra-high capacitance and high-density power with ultra-low ESR for a host of industrial applications. Comprising two TV family cells with passive voltage management from Eaton, they reduce cell count and simplify designs. In industrial applications, PTV supercapacitors are an excellent source of backup, pulse, and hybrid power.

PTV supercapacitors support hundreds of thousands of charge/discharge cycles with operating lifetimes of up to 20 years*. The cells are maintenance-free with zero thermal runaway risk. Each EDLC cell offers 6.0 V (5.0 V at +85° C) of working voltage with operating temperatures from -40° C to +85° C, meeting the higher voltage and temperature requirements of industrial applications. PTV supercapacitors can be utilized as standalone energy storage systems or combined with secondary batteries to optimize the lifetime, runtime, and cost.

Features and benefits:

- Ultra-high capacitance
- Excellent temperature withstand capability (-40° C to +85° C)
- Higher voltage (6 V) and high current-handling capacity
- Passive cell voltage management from Eaton
- Ultra-low ESR for high power density
- Low profile design for space-saving
- Halogen and lead-free, REACH and RoHS-compliant

*Supercapacitor lifetimes vary based on charge voltage and temperature.



Powering Business Worldwide

Specifications

Capacitance ¹ (F)	Vertical part number	Horizontal part number	Maximum initial ESR ¹ (mΩ)	Continuous current ⁶ (A)	Peak current ⁵ (A)	Nominal leakage current ² (uA)	Peak power ⁴ (W)	Stored energy ³ (mWh)	Short circuit current ^{**7} (A)
3.0	PTV-6ROV305-R	PTV-6ROH305-R	70	2.4	7.3	25	120	15	80
5.0	PTV-6ROV505-R	PTV-6ROH505-R	54	3.7	11.8	80	160	25	109

** Repeated short circuit current will permanently damage the leads.

Performance

Parameter	Capacitance change (% of initial value)	ESR (% of maximum initial value)
Lifetime: (1000 hours, maximum rated voltage, maximum operating temperature)	≤ 30%	≤ 200%
Charge/Discharge Cycles ⁸ : (500,000 at +20° C)	≤ 30%	≤ 200%
Storage: (3 years, uncharged, <+35° C)	≤ 5%	≤ 10%

1. Capacitance, Equivalent Series Resistance (ESR) and Leakage current are measured according to IEC62391-1

2. Leakage current at +20 ° C after 72 hour charge and hold.

3. Stored Energy (mWh) = $\frac{0.5 \times V^2 \times C \times 1000}{3600}$

4. Peak Power (W) = $\frac{V^2}{4 \times ESR}$

5. Pulse current for 1 second from full rate voltage to half voltage. (A) = $\frac{0.5 \times V \times C}{(1 + ESR \times C)}$

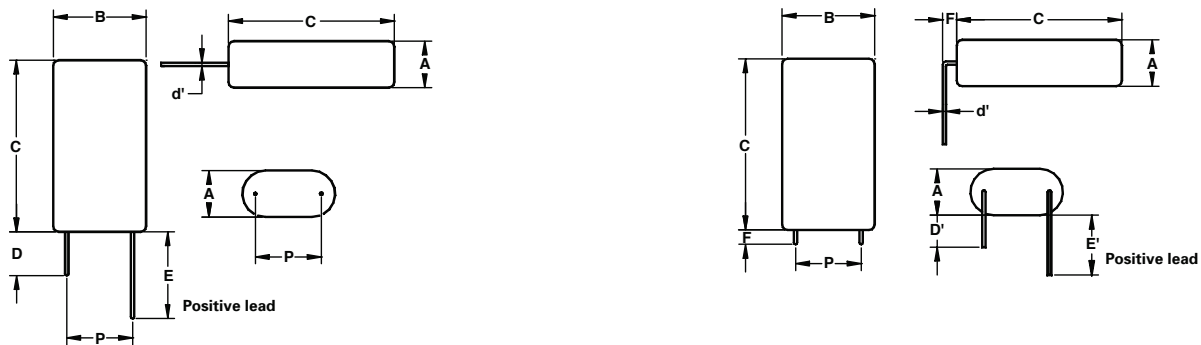
6. Continuous current with a 15° C temperature rise. Continuous current (A) = $\sqrt{\frac{AV}{ESR \times Rth}}$

7. Short circuit current is for safety information only. Do not use as operating current.

8. Cycling between rated voltage and half voltage, 3 second rest at +20 ° C.

Dimensions (mm)

Vertical part number	Horizontal part number	A	B	C	d'	D	D'	E	E'	F	P
PTV-6ROV305-R	PTV-6ROH305-R	11	21.3	23.0	0.6	20	15	25	20	2.0	5.3
PTV-6ROV505-R	PTV-6ROH505-R	11	21.3	32.5	0.6	20	15	25	20	2.0	5.3
Tolerances		Maximum			± 0.02	Minimum			± 0.5		



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 Printed in USA
 Publication No. 11064 BU-MC20041
 June 2020

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