XTM-18 Supercapacitor

18 V, 61.7 F Module



Features and benefits

- Long life energy storage, up to 20 years*
- Very low Equivalent Series Resistance (ESR)
- Wide operating temperature range
- Cost effective backup power and large energy recapture
- High efficiency (> 98%) under broad operating conditions
- High reliability, green solution
- Low operating costs and maintenance free

Applications

- Industrial computer and emergency backup energy
- Battery assist engine starting for cold or frequent starts
- Soft shutdown for industrial robotics and PLCs
- Automated guided vehicles and warehouse automation

Description

Eaton supercapacitors are high reliability, high power, ultra-high capacitance energy storage devices utilizing electric double layer capacitor (EDLC) construction combined with proprietary materials and processes. This combination of advanced technologies allows Eaton to offer a wide variety of capacitor solutions tailored to applications for backup power, pulse power and hybrid power systems.

They can be applied as the sole energy storage or in combination with batteries to optimize cost, life time and run time. System requirements can range from a few microwatts to megawatts.

All products feature low ESR for high power density with environmentally friendly materials for a green power solution. Eaton supercapacitors are maintenance-free with design lifetimes up to 20 years* and operating temperatures down to -40 °C and up to +85 °C.

*Supercapacitor lifetimes vary based on charge voltage and temperature. See Eaton's application guidelines or contact your local Eaton sales representative for more information on lifetime estimates

Powering Business Worldwide

Ratings

Capacitance	61.7 F
Maximum working voltage	18.0 V
Surge voltage	19.8 V
Capacitance tolerance	-5% to +20%
Operating temperature range	-40 °C to +65 °C (with linear voltage derating to 15 V @ +85 °C)

Specifications

Capacitance[1] (F)	Part number	Maximum working voltage (V)	Maximum initial ESR[1] (mΩ)	Leakage current[1,2] (mA)	Stored energy[3] (Wh)	Peak Power[5] (kW)	Pulse current[4] (A)	Continuous current[6] (A)	Typical thermal resistance[8] Rth (°C/W)
61.7	XTM-18R0626-R	18.0	22	26	2.8	3.7	235.6	20	1.5

Performance

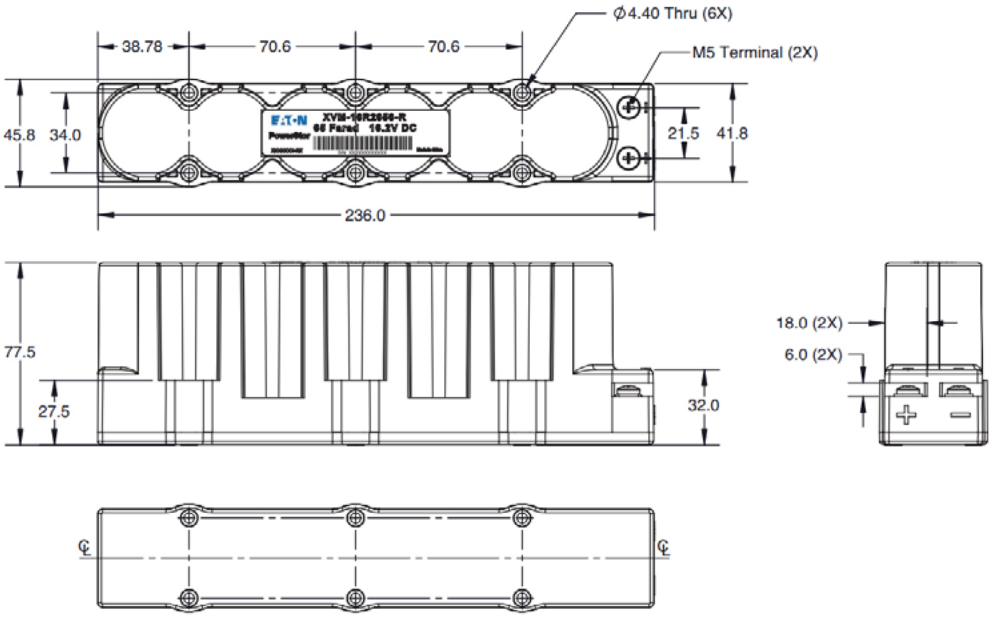
Parameter	Capacitance Change (% of initial value)	ESR (% of initial maximum value)
Lifetime: (1500 hours at maximum temperature and voltage)	≤ 30%	≤ 200%
Charge/Discharge Cycles[7] (500,000 at +20 °C)	≤ 20%	≤ 200%
Storage: (3 years, uncharged, < +35 °C)	≤ 5%	≤ 10%

1.Capacitance, Equivalent Series Resistance (ESR) and Leakage current are measured according to IEC62391-1 with current in milliamps (mA) = 8 x C x V.
2. Leakage current at +20 °C after 72 hour charge and hold at rated voltage.
3. Stored Energy (Wh) = $\frac{0.5 \times C \times V^2}{3600}$
4. Pulse current for 1 second from full rate voltage to half voltage. (A) = $\frac{0.5 \times V \times C}{(1 + ESR \times C)}$
5. Peak Power (W) = $\frac{V^2}{4 \times ESR}$
6. Continuous current with a 15 °C temperature rise.
7. Cycling between rated voltage and half voltage, 3 second rest at +20 °C.
8. Thermal resistance (Rth) cell body temperature to ambient in open air in degrees C per Watt (°C/W)

Safety and Certifications

Agency information	UL810a (cells)
Shock and vibration	IEC 60068-2-6, IEC 60068-2-27, IEC 60068-2-29 (cells)
Environmental	RoHS, Halogen Free, IP54
Warnings	Do not overvoltage, do not reverse polarity
Shipping	No restrictions per UN3499

Dimensions (mm)



Part numbering system

Typical mass: 0.75 kg

XTM	–18R0	62	6	-R
Family code	Voltage (V) R = decimal	Capacitance (µF) value	Multiplier	Standard product
XTM=Family code	18R0 = 18.0 V	Example 626 = 61.7 x 10^6 µF or 62 F		

Packaging information

- Standard packaging: Bulk, 1 part per box,
  10 boxes per carton

Part marking

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

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

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