XLM Supercapacitor

62 V, 130 F Module

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.

Features and benefits

- Long life energy storage, up to 20 years*
- Very low equivelent series resistance (ESR)
- Wide operating temperature
- 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
- Shunt balancing for reduced leakage current

Applications

- Datacenter UPS
- Healthtcare UPS
- Hybrid power systems
- Grid storage and support
- Peak power shaving

*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

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Ratings

Capacitance	130 F
Maximum working voltage	62.1 V
Capacitance tolerance	0% to +20% (+20 °C)
Operating temperature range	-40 °C to +65 °C

Specifications

Capacitance[1] (F)	Part number	Maximum working voltage (V)	Maximum initial ESR[1] (mΩ)	Nominal leakage current[2] (mA)	Stored energy[3] (Wh)	Peak power[4] (kW)	Pulse current[5] (A)	Typical thermal resistance[6] Rth (°C/W)
130	XLM-62R1137A-R	62.1	6.7	128	69.6	143.9	2157	0.5
130	XLM-62R1137A-T	62.1	6.7	128	69.6	143.9	2157	0.5
130	XLM-62R1137B-R	62.1	6.7	5.2	69.6	143.9	2157	0.5
130	XLM-62R1137B-T	62.1	6.7	5.2	69.6	143.9	2157	0.5

Performance

Parameter (F)	Capacitance change (% of initial value)	ESR (% of maximum initial value)
Lifetime (1500 hours @ +65 °C, 62.1 Vdc)	≤ 20%	≤ 200%
Lifetime (10 years @ +25 °C, 62.1 Vdc)	≤ 20%	≤ 200%
Charge/discharge cycles[7] (1,000,000 @ +25 °C)	≤ 20%	≤ 200%
Storage (3 years, uncharged, <+30 °C)	≤ 3%	≤ 10%

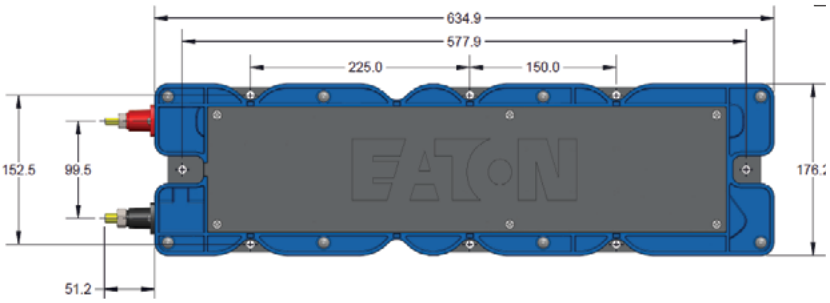
1. Capacitance and equivalent series resistance (ESR) measured according to IEC62391-1 at +20 °C, with current in milliamps (mA) = 8*C*V
2. Leakage current at +20 °C after 72 hour charge and hold
3. Stored energy (Wh) = $\frac{½*C*V^2}{3600}$
4. Peak power (W) = $\frac{V^2}{4*ESR}$
5. Pulse Current in Amps (A), 1 second discharge from rated voltage to half rated voltage = $\frac{½*C*V}{(1+ESR*C)}$
6. Thermal resistance (Rth) cell body temperature to ambient in open air in degrees C per Watt (°C/W)
7. Cycling between rated voltage and half voltage, 3 seconds rest at +25 °C

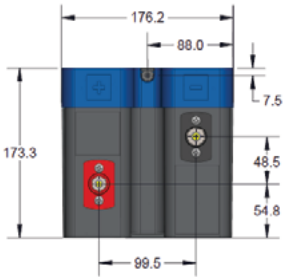
Standards and certifications

Agency information	CE & UL810A file number: MH46887 on XLM-62R1137A-R, other part numbers pending
Shock and vibration	Telcordia GR-63 Zone 4
Environmental	IP30, RoHS
Altitude, Operating	10,000 ft / 3,000 meters
Altitude, Non-operating	40,000 ft / 12,000 meters
Shipping	No restrictions per UN3499 with all cells <0.3 (Wh), ship with shorting wire

Dimensions (mm) and mass (kg)

Part Number	W	L	H
XLM-62R1137A-R	176	635	173
Tolerance	± 1.0		





Positive Terminal: 5/16" – 18 threaded stud

Negative Terminal: 3/8" – 16 threaded stud

Typical mass: 16 kg

Part numbering system

XLM	— 62R1	13	7	A	-R
Family code	Voltage (V) R= decimal	Capacitance (µF)		Cell balancing	Option code
		Value	Multiplier	A= Passive B= Shunt	R= Standard product T= Temperature output
XLM = Family code	62R1= 62.1 V	Example 130=13 x 10^7 µF or 130 F			

Packaging information

- Standard packaging: 1 module per box

Part marking

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

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