

Eaton HS Supercapacitors



Hybrid, high-power supercapacitors achieve significantly higher energy densities than standard solutions

Product description

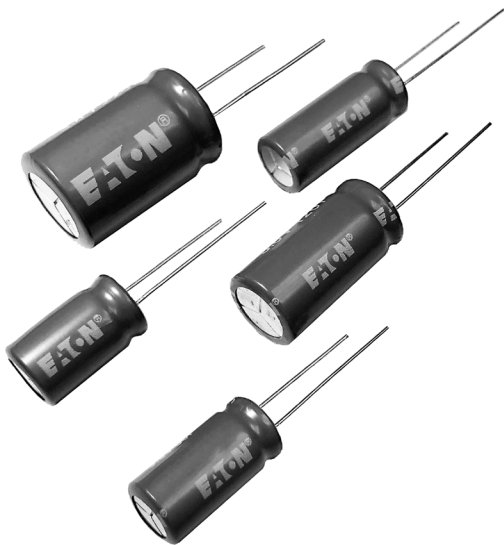
Eaton HS hybrid supercapacitors are small-footprint, high-power energy storage devices ideal for a host of energy and industrial applications. Eaton's HS supercapacitors comprise new proprietary materials. Each supercapacitor has two electrodes, one similar to that of a battery and one a standard supercapacitor electrode. Consequently, their energy densities are closer to those of conventional batteries and up to 10 times higher than standard supercapacitors. HS supercapacitors are maintenance-free with lifetimes of up to 20 years*.

Each hybrid cylindrical cell offers between 30 F and 220 F of capacitance with a maximum working voltage of 3.8 V, an operating temperature range from -25 °C to +70 °C, and ultra-low ESR. HS supercapacitors can be utilized as sole energy storage or alongside batteries to optimize system cost, lifetime, and runtime. While HSL supercapacitors are optimized for lower temperatures, going down to -25 °C, HS supercapacitors have an extended range to +85 °C and are optimized for higher temperatures.

*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.

Features and benefits

- High power and ultra-high capacitance
- Small footprints for space-saving (10.5 mm x 18 mm to 16.5 mm x 27 mm package sizes)
- Wide range of operating temperatures (-25 °C to +70 °C)
- Low ESR and leakage current to minimize power wastage
- Lead and halogen-free, RoHS and REACH compliant, UL registered



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Specifications

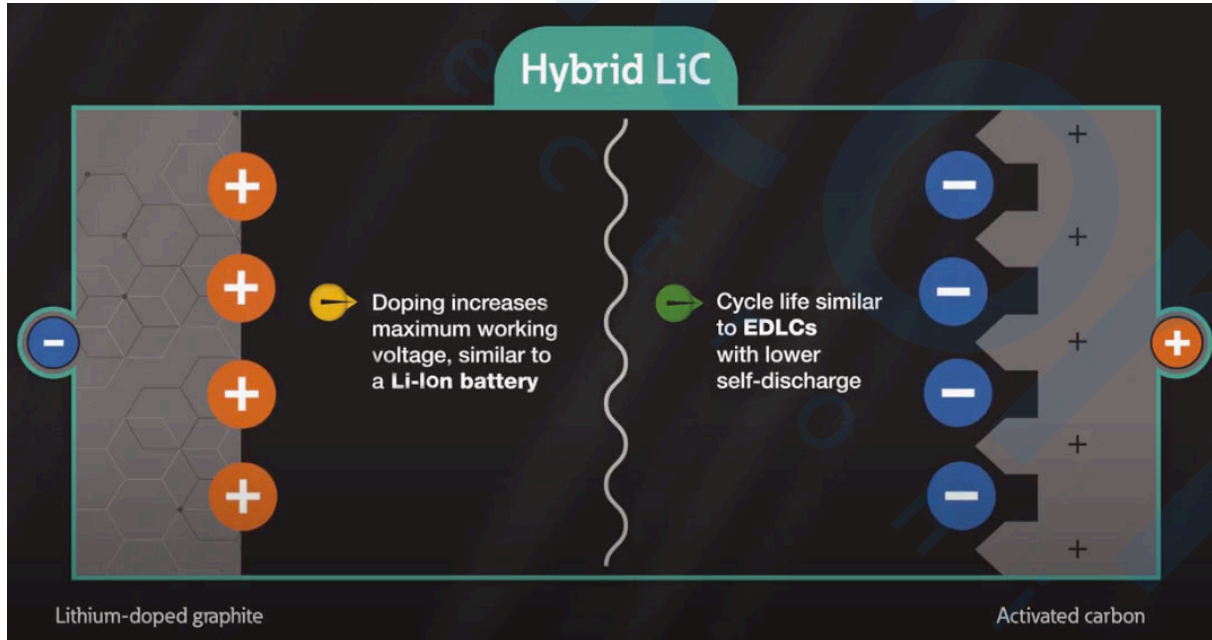
Capacitance (F)	Part number	Maximum initial ESR (mΩ)	Continuous current (A)	Peak current (A)	Nominal leakage current (uA)	Peak power (W)	Stored energy (mWh)	Short circuit current (A)
30	HS/HSL1016-3R8306-R	550	0.15	2.7	3.0/4.0	6.6	40	7
50	HS/HSL1020-3R8506-R	450	0.25	3.4	4.0/5.0	8.0	67	9
70	HS/HSL1025-3R8706-R	250	0.35	6.1	5.0/8.0	14	93	15
120	HS/HSL1225-3R8127-R	200	0.6	7.7	7.0/12	18	160	19
220	HS/HSL1625-3R8227-R	100	1.1	15.3	12/25	36	293	38

Dimensions (mm)

Part number	ØD maximum	L maximum	F ±0.5	Ød ±0.05	C minimum	C' minimum
HS/HSL1016-3R8306-R	10.5	18	5	0.6	22	27
HS/HSL1020-3R8506-R	10.5	22	5	0.6	22	27
HS/HSL1025-3R8706-R	10.5	27	5	0.6	22	27
HS/HSL1225-3R8127-R	12.9	27	5	0.6	22	27
HS/HSL1625-3R8227-R	16.5	27	7.5	0.8	22	27

Part numbering system

HS	1020	-3R8	50	6	-R	
Family code	Size reference (mm)		Voltage (V) R = decimal	Capacitance (µF) Value	Multiplier	Standard product
HS/HSL = Hybrid supercapacitor	Diameter = 10	Length = 20	3R8 = 3.8 V	Example 506 = 50 x 10 ⁶ µF or 50 F		



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