

XB Supercapacitors

Cylindrical snap-in



Features

- Over 10-year operating life at room temperature
- Low ESR for high power density
- Large capacitance for high energy density
- Long cycle life
- Environmentally friendly electrolyte
- UL Recognized

Applications

- Hybrid battery or fuel cell systems
- High pulse current applications
- UPS / 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.

Ratings

Capacitance	300 F to 600 F
Maximum working voltage	2.5 V
Surge voltage	2.85 V
Capacitance tolerance	-10% to +10% (+20 °C)
Operating temperature range	-25 °C to +70 °C

Specifications

Capacitance ¹ (F)	Part Number	Maximum ESR ¹ (mΩ) (Equivalent Series Resistance)	Max continuous current ² (A)	Peak current ³ (A)	Max leakage current ^{1,4} (mA)	Max power ⁵ (W)	Stored energy ⁶ (Wh)	Typical mass (g)
300	XB3550-2R5307-R	7	15	120	0.30	220	0.26	69
400	XB3560-2R5407-R	4.5	19	180	0.45	350	0.35	80
600	XB3585-2R5607-R	3.7	29	235	0.70	420	0.52	122

1. Capacitance, ESR and Leakage current are all measured according to IEC 62391-1 at +20 °C
2. 15 °C Temperature Rise
3. Peak Current is for 1 second = $\frac{1}{2}$ Working Voltage x Capacitance / (1 + ESR x Capacitance)
4. Leakage current measured after 72 hours, +20 °C
5. Max. Power = Working Voltage² / 4 / ESR
6. Stored energy = $\frac{1}{2}$ Capacitance x Working Voltage² / 3600

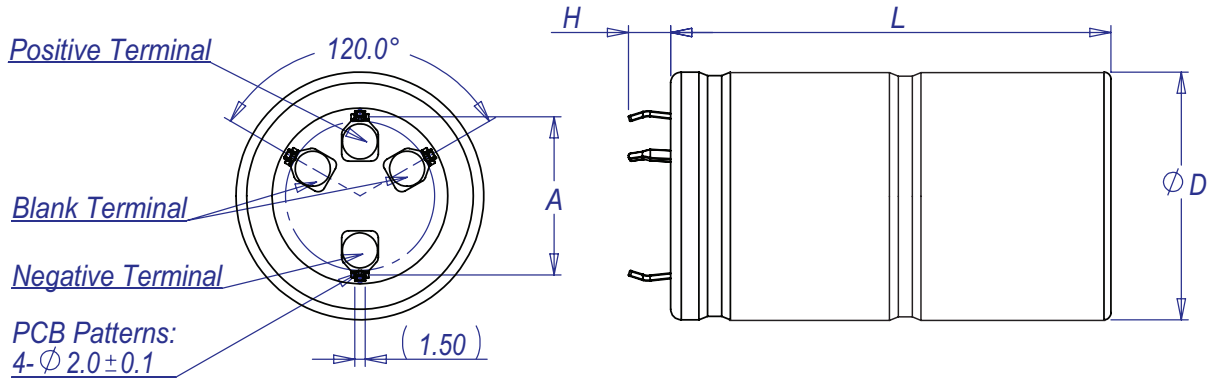
Performance

Parameter		Capacitance change (% of initial value)	ESR (% of max. initial value)
Life			
@ Maximum operating voltage and temp)	1500 hours	≤ 20%	≤ 200%
Charge/discharge cycling ¹	500,000	≤ 20%	≤ 200%
Storage Life- uncharged			
-25 °C to +70 °C	1500 hours	≤ 20%	≤ 200%
≤ 30°C	3 years	≤ 5%	≤ 10%

1. Cycling between maximum operating and 50% of maximum operating voltage at room temperature

Dimensions- mm

Dimensions - mm



Part number	D ± 1.0	L ± 1.0	H ± 1.0	A ± 0.1
XB3550-2R5307-R	35	53	6	22.5
XB3560-2R5407-R	35	63	6	22.5
XB3585-2R5607-R	35	87.5	6	22.5

Part numbering system

XB	3560		-2R5	40	7	-R
Family Code	Size reference- mm		Voltage (V) R = Decimal	Capacitance (μ F)		Standard product
	Diameter	Length		Value	Multiplier	
XB=Family Code	35	60	2R5 = 2.5 V	Example: 407 = 40 x 10 ⁷ μ F or 400 F		

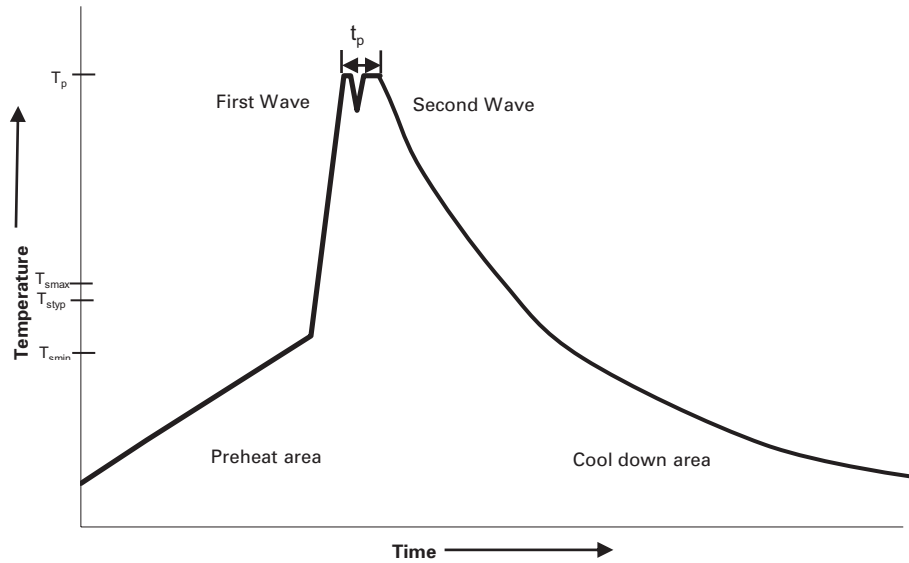
Packaging information

- Standard packaging: Bulk, 20 parts per box

Part marking

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

Wave solder profile



Profile Feature	Standard SnPb Solder	Lead (Pb) Free Solder
Preheat and soak	<ul style="list-style-type: none"> • Temperature max. (T_{smax}) • Time max. 	<ul style="list-style-type: none"> • Temperature max. (T_{smax}) • Time max.
Δ preheat to max Temperature	160 °C max.	160 °C max.
Peak temperature (T_p)*	220 °C – 260 °C	250 °C – 260 °C
Time at peak temperature (t_p)	10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave
Ramp-down rate	~ 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
Time 25 °C to 25 °C	4 minutes	4 minutes

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.

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.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

Eaton
Electronics Division
1000 Eaton Boulevard
Cleveland, OH 44122
United States
www.eaton.com/electronics

© 2017 Eaton
All Rights Reserved
Printed in USA
Publication No. 4423
October 2017

Eaton is a registered trademark.

All other trademarks are property of their respective owners.

Данный компонент на территории Российской Федерации

Вы можете приобрести в компании MosChip.

Для оперативного оформления запроса Вам необходимо перейти по данной ссылке:

<http://moschip.ru/get-element>

Вы можете разместить у нас заказ для любого Вашего проекта, будь то серийное производство или разработка единичного прибора.

В нашем ассортименте представлены ведущие мировые производители активных и пассивных электронных компонентов.

Нашей специализацией является поставка электронной компонентной базы двойного назначения, продукции таких производителей как XILINX, Intel (ex.ALTERA), Vicor, Microchip, Texas Instruments, Analog Devices, Mini-Circuits, Amphenol, Glenair.

Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

Офис по работе с юридическими лицами:

105318, г.Москва, ул.Щербаковская д.3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru

moschip.ru_4

moschip.ru_6

moschip.ru_9