

PowerStor KW Series

Coin cell supercapacitors



Description

Eaton PowerStor 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 microamps for several days to several milliamps for milliseconds.

Features and benefits

- High specific capacitance
- Low leakage current
- Long cycle life
- Eco-friendly
- Broad operating range, full specification -40°C to +85°C

Applications

- Electric utility meters
- Motor control units
- Solar inverters
- Real-Time Clock (RTC) backup
- Programmable Logic Controllers (PLCs)
- Irrigation and water control systems



The PowerStor brand of supercapacitors (formerly of the Bussmann Division of Cooper Industries) is now part of Eaton's Electrical Group, Electronics Division.

PowerStor is now part of Eaton
Same great products plus even more.

Specifications

Capacitance	0.1F to 1.0F
Working voltage	5.5V
Surge voltage	6.3V
Capacitance tolerance	-20% to +80% (20°C)
Operating temperature range	-40°C to 85°C

Standard Product

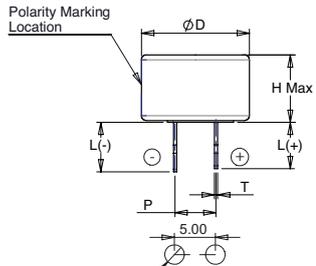
Capacitance (F)	Part number	Lead length	Maximum initial DC ESR (Ω) (Equivalent Series Resistance) measured @ 1kHz	Typical mass (grams/piece)
0.1	KW-5R5C104-R	Standard	50	3.7
0.1	KW-5R5C104H-R	Short		
0.22	KW-5R5C224-R	Standard		
0.22	KW-5R5C224H-R	Short		
0.33	KW-5R5C334-R	Standard		
0.33	KW-5R5C334H-R	Short		
0.68	KW-5R5C684-R	Standard	30	10.2
0.68	KW-5R5C684H-R	Short		10.4
1.0	KW-5R5C105-R	Standard		
1.0	KW-5R5C105H-R	Short		

Performance

Parameter		Capacitance change (% of initial value)	ESR (% of max. initial value)
Life			
85°C @ 5.5Vdc	2000 hours	≤ 30%	≤ 200%
Storage Life			
-40°C to +85°C	2000 hours	≤ 30%	≤ 200%

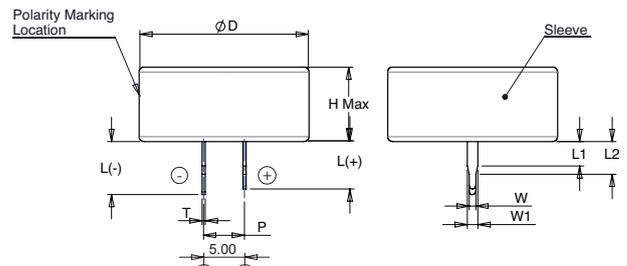
Dimensions - mm

KW-5R5C104/224/334-R

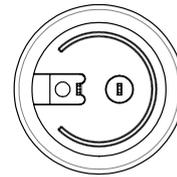
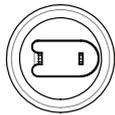


Recommended PCB Layout $\phi 1.60 \pm 0.05$

KW-5R5C684/105-R



Recommended PCB Layout $\phi 1.60 \pm 0.05$



Part Number	ØD Max	H Max	L(-) ±0.2	L(+) ±0.2	P ±0.3	T ±0.1	L1 ±0.1	L2 ±0.1	W ±0.06	W1 ±0.06
KW-5R5C104-R	13.5	8.30	6.1	5.7	5.0	0.4	3.0	4.0	0.8	1.3
KW-5R5C104H-R			3.3	3.3			0.9	1.9		
KW-5R5C224-R			6.1	5.7			3.0	4.0		
KW-5R5C224H-R			3.3	3.3			0.9	1.9		
KW-5R5C334-R			6.1	5.7			3.0	4.0		
KW-5R5C334H-R			3.3	3.3			0.9	1.9		
KW-5R5C684-R	21.5	8.70	6.5	5.8			3.0	4.0		
KW-5R5C684H-R			3.3	3.3			0.8	1.8		
KW-5R5C105-R			6.5	5.8			3.0	4.0		
KW-5R5C105H-R			3.3	3.3			0.8	1.8		

Part Numbering System

KW	-	5	R	5	C	□	□	□	H*	-R
Series Code		Voltage (V) R = Decimal				Capacitance (μF)			Short lead length	RoHS Compliant
						Value	Multiplier			
		5R5 = 5.5V				Example: 104 = 10 x 10 ⁴ μF or 0.1F				

* If ordering standard lead length, omit "H" from part number.

Packaging information

Standard bulk packaging:

- KW-5R5C104/224/334-R - 400 units
- KW-5R5C684/105-R - 500 units

Part marking

- Manufacturer
- Capacitance (F)
- Nominal Working Voltage (V)
- Series Code (or part number)
- Polarity

North America

Eaton's Electrical Group
Electronics Division
1225 Broken Sound Parkway NW
Suite F
Boca Raton, FL 33487-3533
Tel: 1-561-998-4100
Fax: 1-561-241-6640
Toll Free: 1-888-414-2645

Eaton's Electrical Group
Electronics Division
P.O. Box 14460
St. Louis, MO 63178-4460
Tel: 1-636-394-2877
Fax: 1-636-527-1607

Europe

Eaton's Electrical Group
Electronics Division
Burton-on-the-Wolds
Leicestershire, LE 12 5th UK
Phone: +44 (0) 1509 882 600
Fax: +44 (0) 1509 882 786

Eaton's Electrical Group
Electronics Division
Avda Santa Eulalia, 290
Terrassa, Barcelona 08223 Spain
Phone: +34-93-736-2813
Fax: +34-93-783-5055

Asia Pacific

Eaton's Electrical Group
Electronics Division
No.2, #06-01
Serangoon North Avenue 5
Singapore 554911
Tel: +65 6645 9888
Fax: +65 6728 3155

The only controlled copy of this Data Sheet is the electronic read-only version located on the Bussmann Network Drive. All other copies of this document are by definition uncontrolled. This bulletin is intended to clearly present comprehensive product data and provide technical information that will help the end user with design applications. Bussmann reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Bussmann also reserves the right to change or update, without notice, any technical information contained in this bulletin. Once a product has been selected, it should be tested by the user in all possible applications.

Life Support Policy: Bussmann 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's Electrical Group
Electronics Division**
114 Old State Road
Ellisville, MO 63021
United States
www.eaton.com/elx

© 2014 Eaton
All Rights Reserved
Publication No. 4422 — BU-SB14627
September 2014

Eaton is a registered trademark.

All other trademarks are property of their respective owners.

