CAP-XX

Power Management Redefined

Product Bulletin
HW1 series – High Temperature, Single Cell Supercapacitors

HW1 series supercapacitors offer a very low profile, high performance solution to the power delivery limitations of batteries and other current-limited energy sources in a small footprint, environmentally robust package.

CAP-XX high temperature supercapacitors:

- Store sufficient energy to meet large power surges (high capacitance)
- Provide the power to meet peak current loads (best in class ESR)
- Offer long-life performance at up to 2.75V (low dESR & leakage current)
- Operate across a wide environmental range (-40ºC to +85ºC)
- The smallest and thinnest form factor for any given ESR and capacitance

CAP-XX Product Name	DC Capacitance[1] (± 20%)[2]	ESR[1] (± 20%)[2]	Maximum Thickness
HW109F	**250 mF**	**55 mΩ**	**1.10 mm**
HW101F	**650 mF**	**70 mΩ**	**1.20 mm**

Other products available to order			
HW114F	180 mF	75 mΩ	0.90 mm
HW115F	300 mF	55 mΩ	1.20 mm
HW102F	350 mF	50 mΩ	1.40 mm
HW105F	500 mF	90 mΩ	1.00 mm
HW107F	800 mF	55 mΩ	1.40 mm

Parameter	Minimum	Nominal	Maximum
Operating Temp	-40°C	+25°C	+85°C
Storage Temp	-40°C	+25°C	+85°C
Operating Voltage		2.75V	
Leakage Current[3]		1µA	2µA
Pulse Current	30A (single pulse. +ve & -ve terminal short circuited)		
ESR change with Temp	75% of nominal @ +75°C		180% of nominal @ -20°C
Dimensions	28.0 x 16.5mm	28.5 x 17.0mm	29.0 x 17.5mm

RoHS Compliant

Reduce voltage drops and DC/DC requirements in consumer and industrial devices

Extend battery life, run-time and stand-by time, particularly at low temperatures

Protect against voltage transients (e.g., drop test) and electromagnetic interference

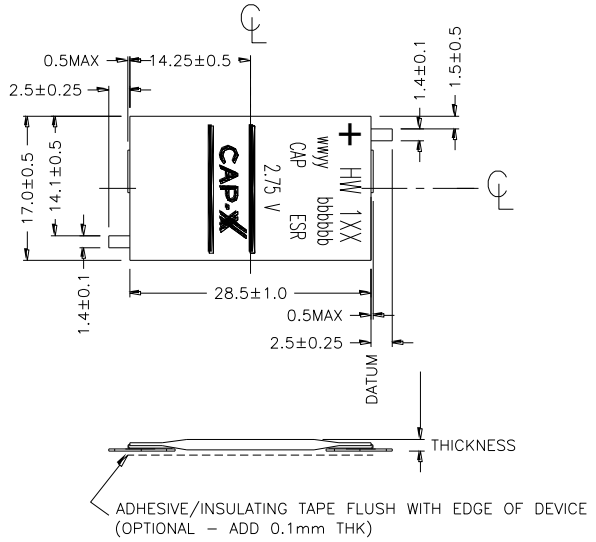
Solve current limitations of e.g., USB, PCMCIA, PCI & CF ports, fuel cells, solar cells, etc.

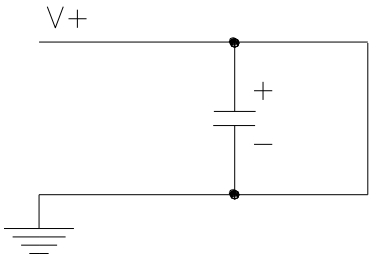
Notes

1. Capacitance will decline and ESR will rise over time, at a rate which depends on both voltage and temperature. Further information on supercapacitor ageing and lifetime is available from CAP-XX.
2. Tolerances for Capacitance and ESR are measured at +25°C
3. Leakage current is measured after 72h at voltage at +25°C

Mounting: Adhesive/insulating tape can be added to the underside of the product to assist with mounting as shown in the following Mechanical Drawings. The mounting tape increases the overall device thickness by 0.1mm with the release layer removed. To order this option, replace the "F" suffix with a "G" in the CAP-XX Product Name, e.g., HW101**G**.

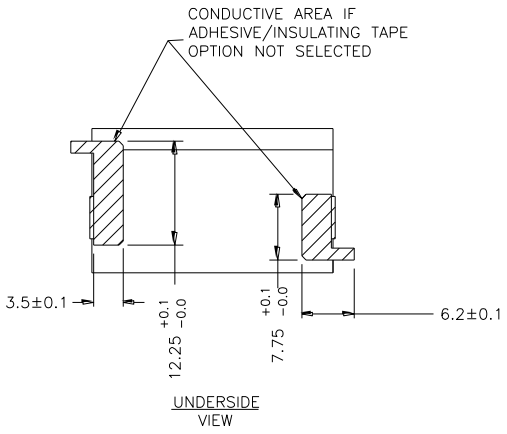
Mechanical & Electrical Drawings

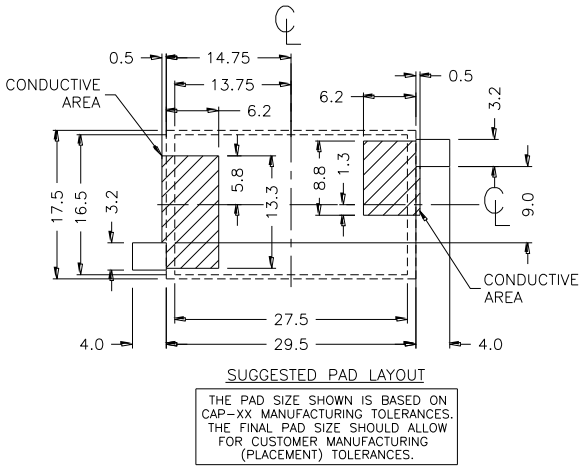




PLEASE CONTACT CAP–XX FOR FURTHER INFORMATION

SUGGESTED CONNECTION DETAILS FOR SINGLE CELL SUPERCAP





For further information on all CAP-XX products and applications, please contact us at:

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CAP-XX

Power Management Redefined

Product Bulletin
HW2 series – High Temperature, Dual Cell Supercapacitors

HW2 series supercapacitors offer a small footprint, high performance solution to the power delivery limitations of batteries and other current-limited energy sources in a low profile and environmentally robust package.

CAP-XX high temperature supercapacitors:

- Store sufficient energy to meet large power surges (high capacitance)
- Provide the power to meet peak current loads (best in class ESR)
- Offer long-life performance at up to 5.5V (low dESR & leakage current)
- Operate across a wide environmental range (-40ºC to +85ºC)
- The smallest and thinnest form factor for any given ESR and capacitance

CAP-XX Product Name	DC Capacitance[1] (± 20%)[2]	ESR[1] (± 20%)[2]	Maximum Thickness
HW209F	**120 mF**	**115 mΩ**	**2.15 mm**
HW201F	**300 mF**	**140 mΩ**	**2.35 mm**

Other products available to order			
HW214F	90 mF	150 mΩ	1.90 mm
HW215F	160 mF	110 mΩ	2.50 mm
HW202F	180 mF	100 mΩ	2.90 mm
HW205F	250 mF	180 mΩ	2.00 mm
HW207F	400 mF	110 mΩ	2.90 mm

Parameter	Minimum	Nominal	Maximum
Operating Temp	-40°C	+25°C	+85°C
Storage Temp	-40°C	+25°C	+85°C
Operating Voltage		5.5V	
Leakage Current[3]		1µA	2µA
Pulse Current	30A (single pulse. +ve & -ve terminal short circuited)		
ESR change with Temp	75% of nominal @ +75°C		180% of nominal @ -20°C
Dimensions	28.0 x 16.5mm	28.5 x 17.0mm	29.0 x 17.5mm

RoHS Compliant

Reduce voltage drops and DC/DC requirements in consumer and industrial devices

Extend battery life, run-time and stand-by time, particularly at low temperatures

Protect against voltage transients (e.g., drop test) and electromagnetic interference

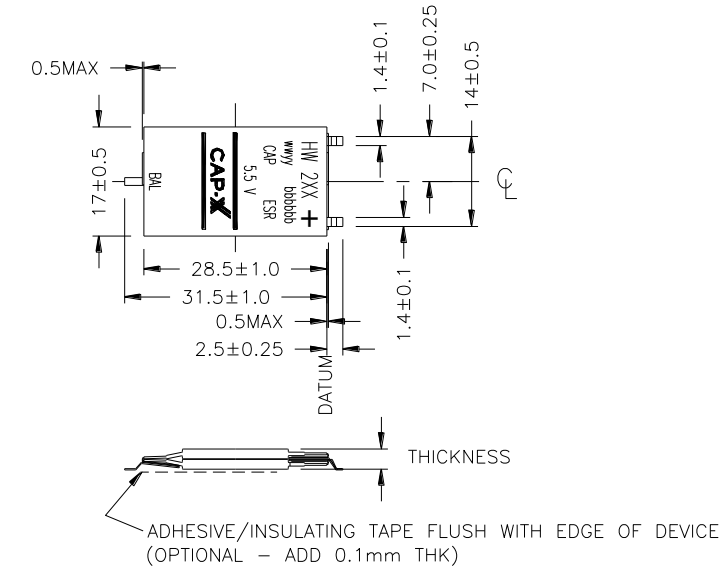
Solve current limitations of e.g., USB, PCMCIA, PCI & CF ports, fuel cells, solar cells, etc.

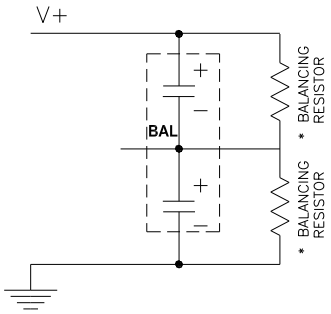
Notes

1. Capacitance will decline and ESR will rise over time, at a rate which depends on both voltage and temperature. Further information on supercapacitor ageing and lifetime is available from CAP-XX.
2. Tolerances for Capacitance and ESR are measured at +25°C
3. Leakage current is measured after 72h at voltage at +25°C

Mounting: Adhesive/insulating tape can be added to the underside of the product to assist with mounting as shown in the following Mechanical Drawings. The mounting tape increases the overall device thickness by 0.1mm with the release layer removed. To order this option, replace the "F" suffix with a "G" in the CAP-XX Product Name, e.g., HW201**G**.

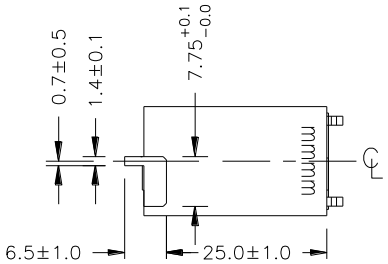
Mechanical & Electrical Drawings



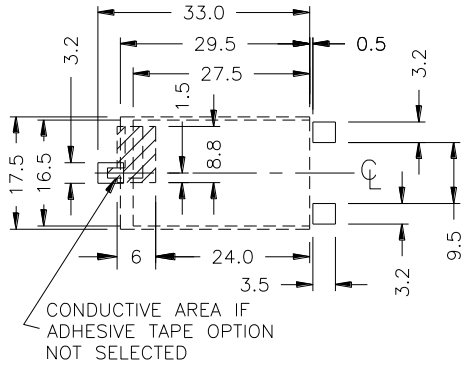


PLEASE CONTACT CAP–XX
FOR FURTHER INFORMATION

SUGGESTED CONNECTION
DETAILS FOR 2 – CELL
SUPERCAP



UNDERSIDE
VIEW



SUGGESTED PAD LAYOUT

THE PAD SIZE SHOWN IS BASED ON CAP–XX MANUFACTURING TOLERANCES. THE FINAL PAD SIZE SHOULD ALLOW FOR CUSTOMER MANUFACTURING (PLACEMENT) TOLERANCES.

For further information on all CAP-XX products and applications, please contact us at:

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