CAP-XX

Power Management Redefined

Product Bulletin
GW1 series – Single Cell Supercapacitors

GW1 series supercapacitors offer a very low profile, small footprint, and low impedance solution to the power delivery limitations of batteries and other current-limited energy sources, and the energy delivery limitations of traditional capacitors.

CAP-XX supercapacitors:

- Provide the power to meet peak current loads (low ESR)
- Store sufficient energy to meet large power surges (high capacitance)
- Operate across a wide environmental range (from -40ºC - +75ºC)
- Offer the smallest and thinnest form factor available for any given ESR and capacitance

CAP-XX Product Name	DC Capacitance[1] (± 20%)[2]	ESR[1] (± 20%)[2]	Maximum Thickness
GW114F	**180 mF**	**45 mΩ**	**0.90 mm**
GW109F	**250 mF**	**35 mΩ**	**1.10 mm**
GW101F	**650 mF**	**40 mΩ**	**1.20 mm**

Other products available to order			
GW115F	300 mF	36 mΩ	1.20 mm
GW102F	350 mF	30 mΩ	1.40 mm
GW105F	500 mF	55 mΩ	1.00 mm
GW107F	800 mF	34 mΩ	1.40 mm

Parameter	Minimum	Nominal	Maximum
Operating Temp	-40°C	+25°C	+75°C[3]
Storage Temp	-40°C	+25°C	+75°C
Operating Voltage		2.3V	2.5V
Leakage Current[4]		1µA	2µA
Pulse Current	30A (single pulse. +ve & -ve terminal short circuited)		
ESR change with Temp	75% of nominal @ +75°C		150% 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.

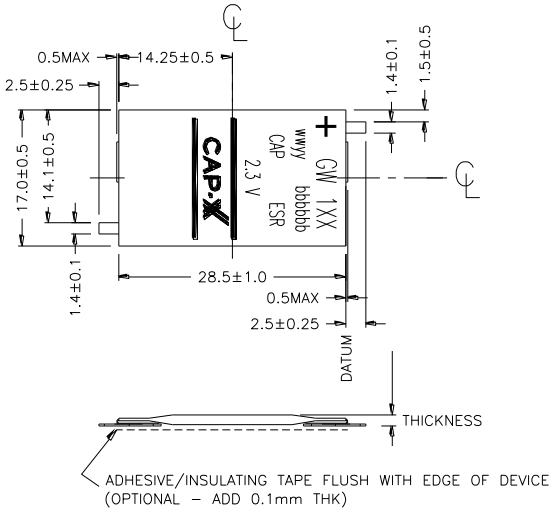
Notes

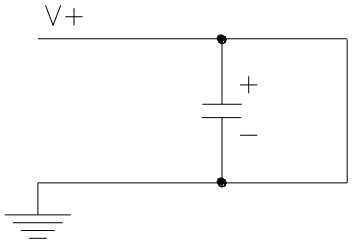
1. Capacitance will decline and ESR will rise over time, at a rate which depends on both voltage and temperature. Further information on supercapacitor ageing and lifetime is available from CAP-XX.
2. Tolerances for Capacitance and ESR are measured at +25°C
3. The maximum recommended temperature for sustained operation is 70°C
4. 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., GW101**G**.

Specifications may be subject to change without notice
The technology referred to in this Product Bulletin is protected by patent no. US06631072B1 and other patents and pending patents throughout the world.

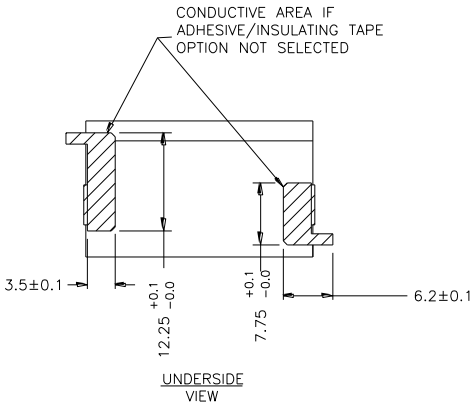
Mechanical & Electrical Drawings

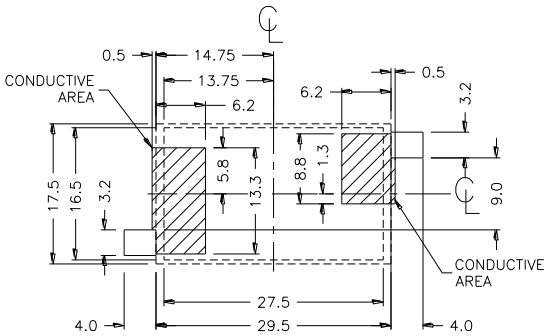




PLEASE CONTACT CAP–XX
FOR FURTHER INFORMATION

SUGGESTED CONNECTION
DETAILS FOR SINGLE CELL
SUPERCAP





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:

Asia Pacific:	Americas:	Europe, Middle East, Africa:
9/12 Mars Rd	1709 Crooked Pine Dr.	55B Battersea Rise
Lane Cove, NSW 2066 Australia	Myrtle Beach, SC 29575 USA	London SW11 1HH United Kingdom
T: +61 2 9420 0690	**T: +1 843 215 2854**	**T: +44 7879 690 231**
F: +61 2 9420 0692	**F: +1 843 215 4419**	
E: asiasales@cap-xx.com	**E: americasales@cap-xx.com**	**E: europesales@cap-xx.com**
W: www.cap-xx.com	**W: www.cap-xx.com**	**W: www.cap-xx.com**

CAP-XX

Power Management Redefined

Product Bulletin
GW2 series – Dual Cell Supercapacitors

GW2 series supercapacitors offer a small footprint, low profile, and low impedance solution to the power delivery limitations of batteries and other current-limited energy sources, and the energy delivery limitations of conventional capacitors.

CAP-XX supercapacitors:

- Provide the power to meet peak current loads (low ESR)
- Store sufficient energy to meet large power surges (high capacitance)
- Operate across a wide environmental range (from -40ºC - +75ºC)
- Offer the smallest and thinnest form factor available for any given ESR and capacitance

CAP-XX Product Name	DC Capacitance[1] (± 20%)[2]	ESR[1] (± 20%)[2]	Maximum Thickness
GW214F	**90 mF**	**90 mΩ**	**1.90 mm**
GW209F	**120 mF**	**70 mΩ**	**2.15 mm**
GW201F	**300 mF**	**85 mΩ**	**2.35 mm**

Other products available to order			
GW215F	160 mF	65 mΩ	2.50 mm
GW202F	180 mF	60 mΩ	2.90 mm
GW205F	250 mF	110 mΩ	2.00 mm
GW207F	400 mF	65 mΩ	2.90 mm

Parameter	Minimum	Nominal	Maximum
Operating Temp	-40°C	+25°C	+75°C[3]
Storage Temp	-40°C	+25°C	+75°C
Operating Voltage		4.5V	5V
Leakage Current[4]		1µA	2µA
Pulse Current	30A (single pulse. +ve & -ve terminal short circuited)		
ESR change with Temp	75% of nominal @ +75°C		150% 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. The maximum recommended temperature for sustained operation is 70°C
4. 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., GW201**G**.

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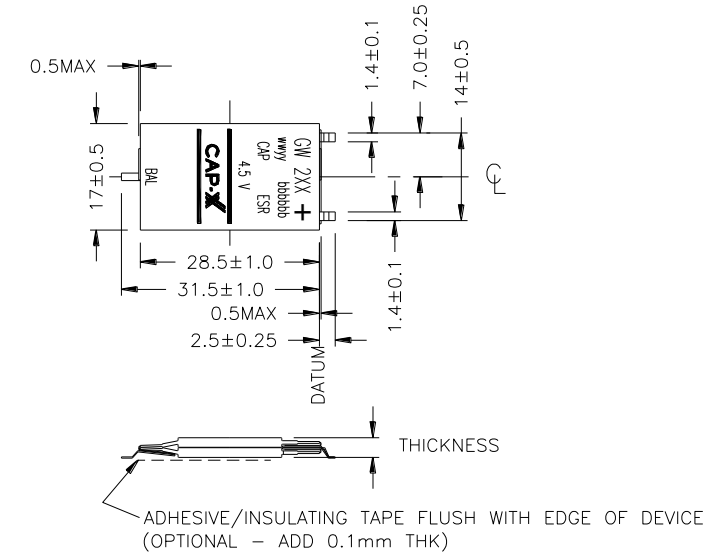
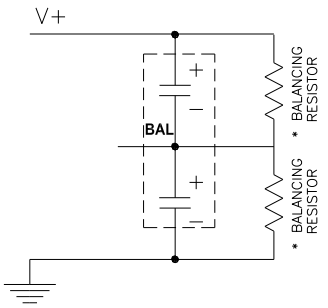
Mechanical & Electrical Drawings





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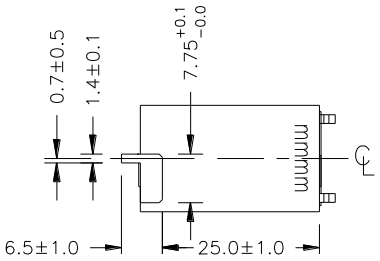
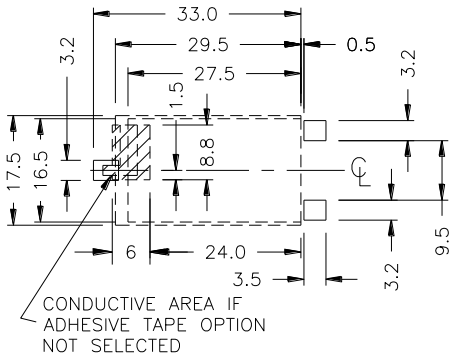
SUGGESTED CONNECTION
DETAILS FOR 2 – CELL
SUPERCAP



UNDERSIDE
VIEW



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T: +61 2 9420 0690	**T: +1 843 215 2854**	**T: +44 7879 690 231**
F: +61 2 9420 0692	**F: +1 843 215 4419**	
E: asiasales@cap-xx.com	**E: americasales@cap-xx.com**	**E: europesales@cap-xx.com**
W: www.cap-xx.com	**W: www.cap-xx.com**	**W: www.cap-xx.com**