

# CAP-XX Products - 2009

## New Products

**Z series** - Our smallest supercapacitors, offering excellent performance in tight spaces

**A series** - A compact, powerful package for high current/high power applications

## Specifications

Cell capacitance ranges from **150mF to 2.4F**

Cell ESR remains the industry benchmark, at **14 - 75mΩ** for the G series

Thickness specifications have increased slightly for several products

## CAP-XX Power Series (for pulsed loads)

**GS203 & GW209** offer the best value & outstanding performance for pulsed load applications

For an even more robust solution, choose **HS211 or HW202**

And for space-constrained designs, use **GZ215 or HZ202**

## CAP-XX Energy Series (for reliable backup power)

**HS230 & HS208** offer high energy & high power at a high cell voltage for outstanding performance

For more space-constrained designs, choose **HW203, HA230 or HZ202**

For lower voltage environments, use the equivalent G series product

## CAP-XX ThinLine Series (for height-constrained designs)

Choose the "thinline" **GW209T or HX209T** if every micron counts

## CAP-XX SpaceSaver Series (when footprint matters)

The **Z series & A series** are our smallest & lightest products. Great for small spaces

The **GX209 & HX209** shave 5mm from the PCB footprint of their W series counterpart

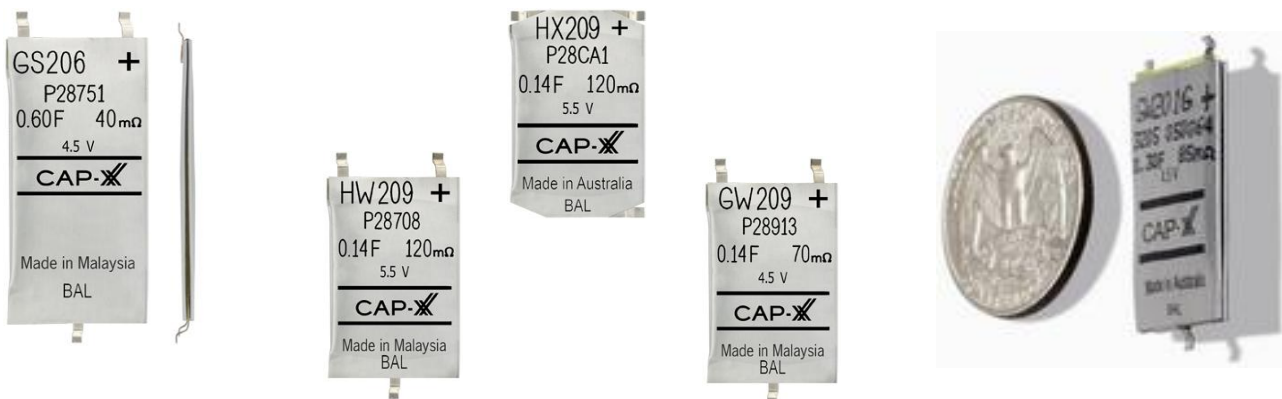
## Single Cells

Single cell configurations are available to order for all current products

Consider mounting single cells side by side for an ultra-thin solution

## Mounting Options

Adhesive/insulating tape is available as an option on all products to assist with mounting



**"S" series = 39.0mm x 17.0mm**

(PCB footprint = 44.0mm x 17.0mm)

**"W" series = 28.5mm x 17.0mm**

(PCB footprint = 33.5mm x 17.0mm)

**"Z" series = 20.0mm x 15.0mm • "A" series = 20.0mm x 18.0mm • "X" series = 28.5mm x 17.0mm**

(PCB footprint for these products = the body size)

## CAP-XX Standard Products - 2009

G Series - Dual Cell Devices (4.5V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
20 x 15	<b>GZ 215F</b>	75	150	2.60
28.5 x 17	<b>GW 209F</b>	140	70	2.20
	<b>GW 202F</b>	220	50	3.00
	<b>GW 201F</b>	350	70	2.50
	<b>GW 203F</b>	550	50	3.50
39 x 17	<b>GS 203F</b>	250	40	2.20
	<b>GS 211F</b>	370	28	3.00
	<b>GS 206F</b>	600	40	2.50
	<b>GS 208F</b>	900	28	3.50
	<b>GS 230F</b>	1200	28	3.80

H Series - Dual Cell Devices (5.5V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
20 x 15	<b>HZ 202F</b>	90	200	3.00
20 x 18	<b>HA 230F</b>	400	140	3.80
28.5 x 17	<b>HW 209F</b>	140	120	2.20
	<b>HW 202F</b>	220	90	3.00
	<b>HW 201F</b>	350	120	2.50
	<b>HW 203F</b>	550	90	3.50
	<b>HS 203F</b>	250	70	2.20
39 x 17	<b>HS 211F</b>	370	50	3.00
	<b>HS 206F</b>	600	70	2.50
	<b>HS 208F</b>	900	50	3.50
	<b>HS 230F</b>	1200	50	3.80

**Minimum Order Quantity = 100pcs • Minimum Order Value = US\$500**

Visit [www.cap-xx.com](http://www.cap-xx.com) for more information • Visit [www.tecategroup.com](http://www.tecategroup.com) for smaller quantities

## CAP-XX Special Order\* Products - 2009

G Series - Dual Cell Devices (4.5V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
20 x 18	<b>GA 230F</b>	400	90	3.80
28.5 x 17	<b>GX 209F</b>	140	70	2.20
	<b>GW 207F</b>	450	55	3.00
	<b>GW 209T</b>	140	70	2.00

H Series - Dual Cell Devices (5.5V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
28.5 x 17	<b>HX 209F</b>	140	120	2.20
	<b>HX 209T</b>	140	120	2.00
	<b>HW 207F</b>	450	100	3.00

G Series - Single Cell Devices (2.3V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
20 x 15	<b>GZ 115F</b>	150	75	1.25
20 x 18	<b>GA 130F</b>	800	45	1.85
28.5 x 17	<b>GX 109F</b>	280	36	1.10
	<b>GW 109F</b>	280	36	1.10
	<b>GW 102F</b>	440	26	1.45
	<b>GW 101F</b>	700	36	1.20
	<b>GW 107F</b>	900	28	1.45
	<b>GW 103F</b>	1100	26	1.70
39 x 17	<b>GS 103F</b>	500	20	1.10
	<b>GS 111F</b>	740	14	1.45
	<b>GS 106F</b>	1200	20	1.20
	<b>GS 108F</b>	1800	14	1.70
	<b>GS 130F</b>	2400	14	1.85

H Series - Single Cell Devices (2.75V)				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
20 x 15	<b>HZ 102F</b>	180	100	1.45
20 x 18	<b>HA 130F</b>	800	70	1.85
28.5 x 17	<b>HX 109F</b>	280	60	1.10
	<b>HW 109F</b>	280	60	1.10
	<b>HW 102F</b>	440	45	1.45
	<b>HW 101F</b>	700	60	1.20
	<b>HW 107F</b>	900	50	1.45
	<b>HW 103F</b>	1100	45	1.70
	<b>HS 103F</b>	500	36	1.10
39 x 17	<b>HS 111F</b>	740	26	1.45
	<b>HS 106F</b>	1200	36	1.20
	<b>HS 108F</b>	1800	26	1.70
	<b>HS 130F</b>	2400	26	1.85

**\* Made to order • No Cancellations / No Returns**

**Minimum Order Quantity = 1,000pcs • Minimum Order Value = US\$2,000**

Contact CAP-XX if you require customised mounting or lead configurations on any product

**CAP-XX Discontinued Products - 2009**  
**FOR INFORMATION ONLY**  
**NOT TO BE SAMPLED / NOT FOR NEW DESIGNS**

<b>G Series - Dual Cell Devices (4.5V)</b>				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
28.5 x 17	<b>GX 214F</b>	100	95	1.90
	<b>GW 214F</b>	100	95	1.90
	<b>GW 215F</b>	180	55	2.50
	<b>GW 205F</b>	250	95	2.00
39 x 17	<b>GS 202F</b>	190	50	1.90
	<b>GS 204F</b>	310	34	2.50
	<b>GS 221F</b>	450	50	2.00
	<b>GS 213F</b>	750	34	2.90
	<b>GS 218F</b>	1200	60	3.15
	<b>GS 219F</b>	1600	38	3.70
	<b>GS 220F</b>	2000	32	4.20

<b>H Series - Dual Cell Devices (5.5V)</b>					
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)	
28.5 x 17	<b>HX 214F</b>	100	165	1.90	
	<b>HW 214F</b>	100	165	1.90	
	<b>HW 215F</b>	180	100	2.50	
	<b>HW 205F</b>	250	165	2.00	
39 x 17	<b>HS 202F</b>	190	90	1.90	
	<b>HS 204F</b>	310	60	2.50	
	<b>HS 221F</b>	450	90	2.00	
	<b>HS 213F</b>	750	60	2.90	

<b>G Series - Single Cell Devices (2.3V)</b>				
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)
28.5 x 17	<b>GX 114F</b>	200	50	0.90
	<b>GW 114F</b>	200	50	0.90
	<b>GW 115F</b>	360	28	1.20
	<b>GW 105F</b>	500	50	1.00
39 x 17	<b>GS 102F</b>	380	26	0.90
	<b>GS 104F</b>	620	18	1.20
	<b>GS 121F</b>	900	26	1.00
	<b>GS 113F</b>	1500	18	1.40
	<b>GS 118F</b>	2400	30	1.60
	<b>GS 119F</b>	3300	20	1.80
	<b>GS 120F</b>	4000	16	2.10

<b>H Series - Single Cell Devices (2.75V)</b>					
Dimensions (mm)	Product Name	CAP (mF)	ESR (mΩ)	Thickness (mm)	
28.5 x 17	<b>HX 114F</b>	200	85	0.90	
	<b>HW 114F</b>	200	85	0.90	
	<b>HW 115F</b>	360	50	1.20	
	<b>HW 105F</b>	500	85	1.00	
39 x 17	<b>HS 102F</b>	380	45	0.90	
	<b>HS 104F</b>	620	30	1.20	
	<b>HS 121F</b>	900	45	1.00	
	<b>HS 113F</b>	1500	30	1.40	

**Contact CAP-XX for more information**