

Lithium Polymer Rechargeable Batteries

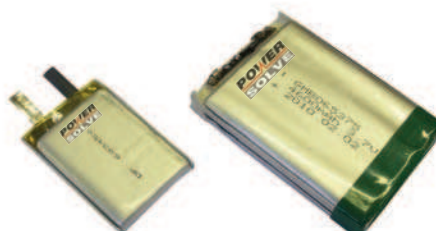


GMB Series from 100mAh to 10,000mAh

www.powersolve.co.uk

Lithium ion polymer batteries are the new generation lithium ion batteries. They not only give the same high voltage, long recharge life, steady discharge rate and pollution free as liquid lithium ion, but also eliminate the safety hazards associated with these type of batteries. The battery design becomes more flexible, convenient, light and easily moulded into a specific size requirement. The performance has reached or exceeded the technology parameters of liquid lithium ion batteries with better reliability.

Applications include communication equipment, mobile phones and radios, portable computer equipment or instruments, digital cameras, camcorders, LED lamps and any equipment where small size and high power density are important.



Lithium Polymer Standard Product List (small and medium capacity)

Type	Nominal capacity mAh	Nominal Voltage	Thickness (mm)	Width (mm)	Length (mm)	Weight (grams)
GMB041235	120	3.7	4.0±0.2	12±0.5	35±1.0	3.0
GMB041430	120	3.7	4.0±0.2	14±0.5	30±1.0	3.0
GMB042025	120	3.7	4.0±0.2	20±0.5	25±1.0	3.0
GMB051235	150	3.7	5.0±0.2	12±0.5	35±1.0	3.5
GMB051430	150	3.7	5.0±0.2	14±0.5	30±1.0	3.5
GMB751919	200	3.7	7.5±0.2	19±0.5	19±1.0	4.3
GMB382030	150	3.7	3.8±0.2	21±0.5	30±1.0	3.9
GMB042030	180	3.7	4.0±0.2	20±0.5	30±1.0	4.0
GMB042527	200	3.7	4.0±0.2	25±0.5	27±1.0	4.3
GMB023048	220	3.7	2.0±0.2	30±0.5	48±1.0	4.5
GMB032436	220	3.7	3.0±0.2	24±1.0	36±1.0	4.5
GMB052025	180	3.7	5.0±0.2	21±0.5	26±1.0	4.5
GMB422229	240	3.7	4.2±0.2	22±0.5	29±1.0	4.8
GMB052030	250	3.7	5.0±0.2	20±0.5	30±1.0	5.0
GMB062025	250	3.7	6.0±0.2	20±0.5	25±1.0	5.0
GMB042043	300	3.7	4.0±0.2	20±0.5	43±1.0	6.5
GMB062030	300	3.7	6.0±0.2	20±0.5	30±1.0	6.5
GMB451745	300	3.7	4.5±0.2	17±1.0	45±1.0	6.5
GMB372838	310	3.7	3.7±0.2	28±0.5	38±1.0	7.0
GMB042436	330	3.7	4.0±0.2	24±1.0	36±1.0	7.2
GMB052040	330	3.7	5.0±0.2	20±0.5	40±1.0	7.2
GMB053028	330	3.7	5.0±0.2	30±0.5	29±1.0	7.2
GMB651540	330	3.7	6.5±0.2	15±0.5	40±1.0	7.2
GMB062036	350	3.7	6.0±0.2	20±0.5	36±1.0	7.8
GMB562830	350	3.7	5.6±0.2	28±1.0	30±1.0	7.8
GMB033048	380	3.7	3.0±0.2	30±0.5	48±1.0	8.0
GMB383040	400	3.7	3.8±0.2	30±1.0	40±1.0	8.2
GMB062436	430	3.7	6.0±0.2	24±1.0	36±1.0	8.4
GMB622043	440	3.7	6.2±0.2	20±0.5	43±1.0	8.5
GMB052540	450	3.7	5.0±0.2	24±1.0	40±1.0	8.7
GMB473037	460	3.7	4.7±0.2	30±0.5	37±1.0	8.9
GMB552540	480	3.7	5.5±0.2	25±1.0	40±1.0	9.0
GMB043048	550	3.7	4.0±0.2	30±0.5	48±1.0	10.5
GMB053040	550	3.7	5.0±0.2	30±1.0	40±1.0	10.5
GMB052547	600	3.7	5.0±0.2	25±0.5	47±1.0	12.0

Lithium Polymer Rechargeable Batteries



Lithium Polymer Standard Product List (small and medium capacity)

Type	Nominal capacity mAh	Nominal Voltage	Thickness (mm)	Width (mm)	Length (mm)	Weight (grams)
GMB353559	600	3.7	3.5±0.2	35±0.5	59±1.0	12.0
GMB393448	600	3.7	3.9±0.2	34±0.5	48±1.0	12.0
GMB423048	600	3.7	4.2±0.2	30±0.5	48±1.0	12.0
GMB452848	600	3.7	4.5±0.1	28±0.5	48±1.0	12.0
GMB433048	600	3.7	4.3±0.2	30±1.0	48±1.0	12.6
GMB063040	650	3.7	6.0±0.2	30±0.5	40±1.0	12.8
GMB043457	750	3.7	4.0±0.2	34±0.5	57±1.0	13.5
GMB623048	800	3.7	6.2±0.2	30±0.5	48±1.0	14.5
GMB383553	850	3.7	3.8±0.2	35±0.5	53±1.0	15.2
GMB573450	900	3.7	5.7±0.2	34±0.5	50±0.2	19.0
GMB043090	1000	3.7	4.0±0.2	30±0.5	90±1.0	23.5
GMB045058	1000	3.7	4.0±0.2	51±0.5	58±1.0	23.5
GMB045068	1000	3.7	4.0±0.2	50±0.5	68±1.0	23.5
GMB045078	1000	3.7	4.0±0.2	50±0.5	78±1.0	23.5
GMB053559	1000	3.7	5.0±0.2	35±0.5	59±1.0	23.5
GMB063450	1000	3.7	6.0±0.2	34±0.5	50±1.0	23.5
GMB383875	1000	3.7	3.8±0.2	38±1.0	75±1.0	23.5
GMB425070	1000	3.7	4.2±0.2	50±0.5	70±1.0	23.5
GMB035585	1100	3.7	3.0±0.2	55±0.5	85±1.0	26.5
GMB045060	1100	3.7	4.0±0.2	50±0.5	60±1.0	26.5
GMB055050	1100	3.7	5.0±0.2	50±0.5	50±0.5	26.5
GMB554050	1100	3.7	5.5±0.2	40±0.5	50±1.0	26.5
GMB533759	1150	3.7	5.3±0.2	37±0.5	59±1.0	27.5
GMB073450	1200	3.7	7.0±0.2	34±0.5	50±4.0	28.0
GMB455058	1200	3.7	4.5±0.2	50±0.8	58±1.0	28.0
GMB055058	1300	3.7	5.0±0.2	50±0.5	58±1.0	29.0
GMB425068	1350	3.7	4.2±0.2	50±0.5	68±1.0	29.5
GMB454080	1350	3.7	4.5±0.2	40±0.5	80±1.0	29.5
GMB325585	1400	3.7	3.2±0.2	55±0.5	85±1.0	30.5
GMB554858	1400	3.7	5.5±0.2	48±0.5	58±1.0	30.5
GMB843553	1400	3.7	8.4±0.2	36±0.5	53±2.0	30.5
GMB065050	1450	3.7	6.0±0.2	50±0.5	50±0.5	31.0
GMB515058	1450	3.7	5.1±0.2	50±1.0	58±1.0	31.0
GMB053396	1500	3.7	5.0±0.2	33±0.5	98±1.0	33.0
GMB055068	1500	3.7	5.0±0.2	50±0.5	68±1.0	33.0
GMB455078	1500	3.7	4.5±0.2	50±0.5	78±1.0	33.0
GMB554080	1500	3.7	5.5±0.2	40±0.5	80±1.0	33.0
GMB823559	1500	3.7	8.2±0.2	35±0.5	59±3.0	33.0
GMB063480	1600	3.7	6.0±0.2	34±0.5	80±1.0	33.8
GMB065058	1600	3.7	6.0±0.2	51±0.5	58±1.0	33.8
GMB425375	1600	3.7	4.2±0.2	53±0.5	75±1.0	33.8
GMB7518125	1600	3.7	7.5±0.2	18±0.5	125±1.0	33.8
GMB963450	1650	3.7	9.6±0.2	34±0.5	50±3.0	34.0
GMB055078	1700	3.7	5.0±0.2	50±0.5	78±1.0	35.0
GMB355585	1700	3.7	3.5±0.2	55±0.5	85±1.0	35.0
GMB045291	1800	3.7	4.0±0.2	52±0.5	91±1.0	38.5
GMB083565	1800	3.7	8.0±0.2	35±0.5	67±1.0	38.5
GMB103450	1800	3.7	10.0±0.2	34±0.5	50±1.0	38.5
GMB356096	1800	3.7	3.5±0.2	60±0.5	96±1.0	38.5
GMB555068	1800	3.7	5.5±0.2	50±0.5	68±1.0	38.5
GMB083666	1850	3.7	8.0±0.2	36±1.0	66±1.0	39.0
GMB093759	1900	3.7	9.0±0.2	37±0.5	59±1.0	39.0

Lithium Polymer Rechargeable Batteries



Lithium Polymer Standard Product List (large capacity)

Type	Nominal capacity mAh	Nominal Voltage	Thickness (mm)	Width (mm)	Length (mm)	Weight (grams)
GMB045396	2000	3.7	4.0±0.2	53±0.5	96±1.0	41.0
GMB056268	2000	3.7	5.0±0.5	62±0.5	68±1.0	41.0
GMB064080	2000	3.7	6.0±0.2	41±0.5	80±1.0	41.0
GMB074765	2000	3.7	7.0±0.2	47±0.5	65±1.0	41.0
GMB555078	2000	3.7	5.5±0.2	50±0.5	78±1.0	41.0
GMB3468100	2000	3.7	3.4±0.2	68±0.5	100±1.0	41.0
GMB056066	2100	3.7	5.0±0.2	60±0.5	66±1.0	42.0
GMB0445135	2100	3.7	4.0±0.2	45±0.5	135±1.0	42.0
GMB784765	2100	3.7	7.8±0.2	47±0.5	65±1.0	42.0
GMB085058	2200	3.7	8.0±0.2	51±0.5	58±1.0	44.0
GMB465585	2200	3.7	4.6±0.2	55±0.5	85±1.0	44.0
GMB0635128	2200	3.7	6.0±0.2	35±0.5	128±1.0	44.0
GMB0824130	2200	3.7	8.0±0.2	24±0.5	130±2.0	44.0
GMB3568100	2200	3.7	3.5±0.2	68±0.5	100±1.0	44.0
GMB075078	2300	3.7	7.0±0.2	50±0.6	78±1.0	48.0
GMB084868	2300	3.7	8.0±0.2	48±0.5	68±1.0	48.0
GMB093090	2300	3.7	9.0±0.2	30±0.5	90±1.0	48.0
GMB753396	2300	3.7	7.5±0.2	33±0.5	96±1.0	48.0
GMB084768	2400	3.7	8.0±0.2	47±0.5	68±1.0	50.0
GMB0535146	2500	3.7	5.0±0.2	35±0.5	146±1.0	53.0
GMB0545135	2500	3.7	5.0±0.2	45±0.5	135±1.0	53.0
GMB555396	2500	3.7	5.5±0.2	53±0.5	96±1.0	53.0
GMB557070	2500	3.7	5.5±0.2	70±0.5	70±1.0	53.0
GMB0730140	2500	3.7	7.0±0.2	30±0.5	140±1.0	53.0
GMB476096	2550	3.7	4.7±0.2	57±0.6	96±1.0	54.0
GMB064596	2600	3.7	6.0±0.2	45±0.5	96±1.0	55.0
GMB456295	2600	3.7	4.5±0.2	62±0.5	95±1.0	55.0
GMB483096	2600	3.7	4.8±0.2	30±0.5	96±1.0	55.0
GMB655396	2600	3.7	6.5±0.2	53±1.0	96±2.0	55.0
GMB965060	2600	3.7	9.6±0.2	50±1.0	60±1.0	55.0
GMB3868100	2600	3.7	3.8±0.2	68±0.5	100±1.0	55.0
GMB6335128	2600	3.7	6.3±0.2	35±0.6	128±1.0	55.0
GMB686066	2700	3.7	6.8±0.2	60±0.5	66±3.0	57.0
GMB6535125	2700	3.7	6.5±0.2	35±0.6	125±1.0	57.0
GMB526186	2800	3.7	5.2±0.2	61±0.5	86±1.0	58.5
GMB0635135	2800	3.7	6.0±0.2	35±0.5	136±1.0	58.5
GMB0636140	2800	3.7	6.0±0.2	36±0.5	140±1.0	58.5
GMB4568100	2900	3.7	4.5±0.2	68±0.5	100±1.0	61.0
GMB6835135	2900	3.7	6.8±0.2	35±0.5	135±1.0	63.0
GMB0548135	3000	3.7	5.0±1.0	48±0.5	135±3.0	63.0
GMB556096	3000	3.7	5.5±0.2	60±0.5	96±2.0	63.0
GMB0645135	3000	3.7	6.0±0.2	45±0.5	135±1.0	63.0
GMB725085	3000	3.7	7.2±0.2	50±0.5	85±1.0	63.0
GMB0735158	3000	3.7	7.0±0.2	35±0.5	158±3.0	63.0
GMB5248125	3000	3.7	5.2±0.2	48±1.0	125±2.0	63.0
GMB075585	3100	3.7	7.0±0.2	55±0.5	85±1.0	64.0
GMB0730160	3100	3.7	7.0±0.2	30±0.5	160±1.0	64.0
GMB5553135	3100	3.7	5.5±0.2	53±0.5	135±1.0	64.0
GMB085085	3200	3.7	8.0±0.2	50±0.5	85±1.0	65.0
GMB086268	3200	3.7	8.0±0.2	62±0.5	68±1.0	65.0
GMB0568100	3200	3.7	5.0±0.2	68±0.5	100±1.0	65.0
GMB0648125	3200	3.7	6.9±0.2	48±0.5	125±2.0	65.0

Lithium Polymer Rechargeable Batteries



Lithium Polymer Standard Product List (large capacity)

Type	Nominal capacity mAh	Nominal Voltage	Thickness (mm)	Width (mm)	Length (mm)	Weight (grams)
GMB0835125	3200	3.7	8.0±0.2	35±0.5	125±2.0	65.0
GMB6527190	3200	3.7	6.5±0.2	27±0.5	191±1.0	65.0
GMB7530160	3300	3.7	7.5±0.2	30±0.5	160±1.0	66.0
GMB8235125	3300	3.7	8.2±0.2	35±0.5	125±1.0	66.0
GMB0410196	3400	3.7	4.0±0.2	10±0.5	196±1.0	68.0
GMB0735135	3400	3.7	7.0±0.5	35±0.5	135±5.0	68.0
GMB0837122	3400	3.7	8.0±0.2	37±0.5	122±1.0	68.0
GMB094985	3500	3.7	9.0±0.2	49±0.5	85±1.0	71.0
GMB0748125	3500	3.7	7.0±0.2	48±0.5	125±2.0	71.0
GMB0830160	3500	3.7	8.0±0.2	30±0.5	160±3.0	71.0
GMB6545135	3500	3.7	6.5±0.2	45±0.5	135±1.0	71.0
GMB8235128	3500	3.7	8.2±0.2	35±0.5	128±1.0	71.0
GMB0565125	3600	3.7	5.0±0.2	65±0.5	125±2.0	74.0
GMB0632200	3600	3.7	6.0±0.2	32±0.5	200±1.0	74.0
GMB656096	3600	3.7	6.5±0.2	60±0.5	96±1.0	74.0
GMB656696	3600	3.7	6.5±0.2	66±0.5	96±1.0	74.0
GMB5550140	3600	3.7	5.5±0.2	50±0.5	140±1.0	74.0
GMB8235135	3600	3.7	8.2±0.5	35±0.5	135±3.0	74.0
GMB8537122	3600	3.7	8.5±0.2	37±0.5	122±1.0	74.0
GMB095974	3700	3.7	9.0±0.2	59±0.5	74±1.0	75.0
GMB0827190	3700	3.7	8.0±0.2	27±0.5	190±1.0	75.0
GMB096066	3800	3.7	9.0±0.2	60±0.5	66±1.0	77.0
GMB0835158	3800	3.7	8.0±0.2	35±0.5	158±3.0	77.0
GMB4273135	3800	3.7	4.2±0.2	73±0.5	135±3.0	77.0
GMB058792	3900	3.7	5.0±0.2	87±0.5	92±1.0	79.0
GMB078080	4000	3.7	7.0±0.2	80±0.5	80±0.5	82.0
GMB085396	4000	3.7	8.0±0.2	53±1.0	96±2.0	82.0
GMB0548165	4000	3.7	5.0±0.2	48±0.5	165±1.0	82.0
GMB0560136	4000	3.7	5.3±0.2	60±0.5	136±2.0	82.0
GMB0732200	4000	3.7	7.0±0.2	32±0.5	200±1.0	82.0
GMB0835146	4000	3.7	8.0±0.2	35±0.5	146±1.0	82.0
GMB4565145	4000	3.7	4.5±0.2	65±0.5	145±1.0	82.0
GMB6548135	4000	3.7	6.5±0.2	48±0.5	135±1.0	82.0
GMB6567100	4000	3.7	6.5±0.2	67±0.5	100±1.0	82.0
GMB7836140	4000	3.7	7.8±0.2	36±0.5	140±3.0	82.0
GMB8730160	4000	3.7	8.7±0.2	30±0.5	160±1.0	82.0
GMB087070	4000	3.7	8.0±0.2	70±0.5	70±1.0	82.0
GMB0469153	4000	3.7	4.0±0.2	69±0.5	153±1.0	82.0
GMB076696	4200	3.7	7.0±0.2	66±0.5	96±1.0	86.0
GMB0653135	4200	3.7	6.0±0.5	53±0.5	135±3.0	86.0
GMB0831190	4200	3.7	8.0±0.2	30±1.0	190±2.0	86.0
GMB7545135	4200	3.7	7.5±0.2	45±0.5	135±3.0	86.0
GMB7548125	4200	3.7	7.5±0.2	48±0.5	125±1.0	86.0
GMB8535146	4200	3.7	8.5±0.2	35±0.5	146±1.0	86.0
GMB0565143	4400	3.7	5.0±0.2	65±0.5	143±2.0	87.0
GMB087085	4500	3.7	8.0±0.2	70±0.5	85±1.0	93.0
GMB0582120	4500	3.7	5.0±0.2	82±0.5	120±1.0	93.0
GMB6568100	4500	3.7	6.5±0.2	68±0.5	100±1.0	93.0
GMB0848125	4600	3.7	8.0±0.2	48±0.5	125±1.0	96.0
GMB8535158	4600	3.7	8.5±0.2	35±0.5	158±1.0	96.0
GMB0753135	4800	3.7	7.0±0.2	53±0.5	135±10	100.0
GMB0935158	4800	3.7	9.0±0.2	35±0.5	158±2.0	100.0

Lithium Polymer Rechargeable Batteries



Lithium Polymer Standard Product List (large capacity)

Type	Nominal capacity mAh	Nominal Voltage	Thickness (mm)	Width (mm)	Length (mm)	Weight (grams)
GMB6265125	4800	3.7	6.2±0.2	65±0.5	125±2.0	100.0
GMB8545135	4900	3.7	8.5±0.2	45±0.5	135±3.0	102.0
GMB0832200	5000	3.7	8.0±0.2	32±0.5	200±1.0	102.0
GMB0848135	5000	3.7	8.0±0.2	48±1.0	135±1.0	102.0
GMB7553135	5000	3.7	7.5±0.2	53±0.5	135±1.0	102.0
GMB0932200	5400	3.7	9.0±0.2	32±0.5	200±1.0	106.0
GMB45103122	5500	3.7	4.0±0.2	103±0.5	122±1.0	110.0
GMB0853135	6000	3.7	8.0±0.2	53±0.5	135±3.0	128.0
GMB1050140	6500	3.7	10.0±0.2	50±0.5	140±1.0	135.5
GMB0890170	10000	3.7	8.0±0.2	90±0.5	170±1.0	240.0
GMB7872196	10000	3.7	7.8±0.2	72±0.6	196±1.0	240.0
GMB9560120	6800	3.7	9.5±0.2	60±0.5	120±1.0	145.0

Note: All batteries above can be supplied in multiple packs to increase voltage or current. Custom sizes can also be accommodated but these will be subject to tooling charges and minimum order quantities. Consult sales office for details. All cells and battery packs are provided with Protective Circuit Modules (PCM) to protect against over charging, over discharging and over current.

Electrical Specification

Charge Voltage	4.2V per single cell
Nominal Voltage	3.7V per single cell (open circuit voltage 3.6 to 3.85V when shipped)
Nominal Capacity	At 0.2C discharge down to 2.75V cut off voltage
Cycle Life	≥300 Cycles, one cycle refers to one charge period and one discharge period. Test condition Charge 0.2C to 4.2V discharge 0.2VC to 2.75V. The cycle time is when the discharge capacity is about 75% of the rated capacity.
Impedance	Cell impedance ≤100mΩ
Charging Methods Charging Current Low Temperature Charging (0°-10°C) Standard Charging (0°-45°C) Fast Charging (10°- 45°C) Charge Time	Standard Constant Current: 0.2C, Fast Constant Current: 0.5C Below 0.1C CC from 2.75V to 4.2V, then CV to 0.05C cut off Standard 0.2C constant current to 4.2V, constant voltage at 4.2V to cut off current ≤0.05C Fast Charge 0.5C constant current to 4.2V, constant voltage at 4.2V to cut of current ≤0.05C Standard Charge 8 hours, Fast Charge time 2.8 hours
Standard Discharge Current (-10°-45°C) Max Discharge Current	Constant discharge at 0.2C to cut off voltage of 2.75V 1C
Discharge Cut Off Voltage	2.75V
Operating Temperature	Discharge -10°C to +45°C, Charge 0°C to +45°C. Cells must be stored at 3.6 to 3.9V. Over long storage periods cells should be cycled every 90 days. The method is to do a charge/discharge cycle with standard method, then charge to 3.6 to 3.9V
Operating Humidity	45-75% relative humidity
Long Term Storage Temperature	-5°C to +35°C, relative humidity 45-75%, Voltage 3.8V±0.1V

Safety Tests

Test	Test Conditions and Method	Results
Overcharge	After standard charging, the cell is connected for 8 hours while the constant voltage is held at 4.5V and standard charging current flow through it	No explosion or fire
Short Circuit	A charged battery is short circuited for 1 hour at 0.04Ω	No explosion or fire
Heat Shock	The cell is placed in a thermal chamber and temperature is raised to 120±2°C at the rate of 5±2°C min and held for 10 minutes, then cooled to room temperature at the rate of 5±2°C min	No explosion or fire
Humidity and heat test	A battery is placed in a box for 48 hours where the temperature is 40°C±2°C and the relative humidity is 90-95%	No explosion or fire

Lithium Polymer Rechargeable Batteries



High & Low Temperature Tests

Test	Test Conditions and Method	Results
High Temperature	A charged battery is placed in an oven for 2 hours at 55°C±2°C, then discharged at a 0.5C current to the termination voltage	Discharge 90% of the original Capacity
Low Temperature	A charged battery is placed in a thermal chamber for 2 hours at -10°C±2°C, then discharged a 0.1C to the termination voltage	Discharge more than 85% of the original capacity

Charge Maintenance

Test	Test Conditions and Method	Results
Charge Maintenance	A charged battery sits for 28 days at an ambient temperature of 25°C±1C, then discharged at 0.2C current to termination voltage	Discharge >85% of the original Capacity

Handling Precaution & Guidelines

Charging Current	The charging current must be less than the maximum charge current specified in the electrical specification
Charging Voltage	The charging voltage must be less than the maximum nominal voltage 4.2V and the charging voltage upper limit is 4.3V per single cell
Charging Temperature	The cell must be charged within the range specified in the electrical specification
Reverse Polarity	Since charging is done with a constant current or a constant voltage, reverse charging is prohibited. If the cell is connected in reverse polarity it cannot be charged. Reverse polarity can damage the cell and lead to degradation of cell performance, impair cell safety and cause heat generation or leakage
Discharging Current	The cell shall be discharged at less than the maximum discharge current specified in the electrical specification. A high discharge current may reduce discharge capacity significantly and cause overheating
Discharge Temperature	The operating temperature when discharging the battery should always be within the range specified in the electrical specification
Over Discharge	Over discharging will cause cell degradation and functional losses. The cell can degrade into an over discharge state through self discharging. In order to prevent this the cell should be charged periodically to retain between 3.6V and 3.9V
Protective Circuit Module (PCM)	Cells should be used with a PCM that can protect against over charging, over discharging and over current
Long Term Storage	If cells are to be stored for 3 months or longer they should be held in a dry cool environment. Voltage during storage needs to be maintained between 3.6 and 3.9V. If stored for long periods keep in a half charged state
Handling of Cells	<ul style="list-style-type: none"> • Don't charge the cells and keep them in a charged state for long periods • Avoid any short circuit, it will cause the leads to get hot and lose electronic functions • Packaging is easily damaged by sharp objects. Avoid touching with sharp objects during handling • Next to leads is sealed edge, Don't bend or fold sealed edges it is sensitive to movement • Don't open the folded edge on the side of the cells • Don't bend the tabs as these are sensitive and could be damaged • Avoid mechanical shock to the cells • Do not place cells in an oven, washing machine or high voltage container • Use only recommended charger • You should immediately stop charging if cell overheats, emits odour, changes shape or colour etc. • Adults should supervise the use of batteries by children • Before using batteries carefully read and understand handling guidelines. • Avoid electro static discharge when using, charging and storing cells. • Avoid accidentally putting battery in contact with metal conductors, which may cause a short. • Don't short circuit battery output terminals during assembly • Never incinerate or dispose of the cells in a fire

For any further details or information please do not hesitate to contact our sales office either by phone or email where we are able to offer our expert technical advise