Advantage Circuits Ltd.

Product Overview ED5048135-H01

3200mAh Polymer Lithium Ion Battery

4.2V Graphite Anode Technology

Features:

- Integrated Protection Circuitry
- High Energy Density
- Low Cost
- 3.7V Nominal Working Voltage
- Low Weight – 2.3 ounces
- Excellent Temperature Performance

This 4.2V Graphite Anode battery technology is trademarked as POLION LIP. This new evolution of lithium technology is made thinner by packing with aluminum laminate. This advanced technology excels over typical polymer lithium ion batteries in energy density, high-rate discharge and low temperature performance. The cells are safety approved from CE and UL.

Extended usage instructions and precautions can be found at:
www.advantagecircuits.com/ProductDatasheet/BatterySafety.pdf

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Technical Specifications:

Nominal Capacity	3300mAh
Minimum Capacity	3200mAh
Standard Discharge Rate	Current: 640mA (0.2C) Cut-off voltage:2.3V
Max.Charge Voltage	4.23V
Max.Charge Current	1600mA (0.5C)
Max.Discharge Current	1600mA (0.5C)
Dimensions	5.0mm x 35.0mm x 62.0mm
Termination	24 AWG wire
Internal Resistance	<40mOhm
Self-Discharge	<8% (first month)
Operating Temperature	-25ºC~+60ºC
Performance at –25ºC	>80% (of the capacity at 20ºC)
Charge Conditions – Constant Voltage:	Voltage : 4.2V
Charge Conditions – Constant Current:	Current:640mA(0.2C), Cut-off current:100 mA
Storage Temperature Range	-20°C ~ +45°C (Less than 1 month)
	-20°C ~ +35°C (More than 6 months)
Internal Impedance	≤110mΩ
Operating Temperature	0~+45°C
Storage Temperature	-20~+60°C

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Model: ED5048135-H01 with protection circuitry and 4”, 24 AWG wire termination.

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Safety Circuit Performance:

Over Charging Protection

Item	Criteria
Protection Voltage	4.28±0.02V
Release Voltage	4.10±0.03V
Protection Delay time	1.00±0.02s
Release Delay time	8.0±1.6ms

Over Discharging Protection

Item	Criteria
Protection Voltage	2.3±0.035V
Protection Delay time	24.0±4.2ms
Release Delay time	4.0±0.8ms

Over Current Protection

Item	Criteria
Protection Voltage	0.15±0.01V
Protection Delay time	12.0±2.4ms
Release Delay time	4.0±0.8ms

Short Circuit Protection

Item	Criteria
Protection Condition	External short
Protection Delay time	1 ms max
Release Condition	Open short circuit

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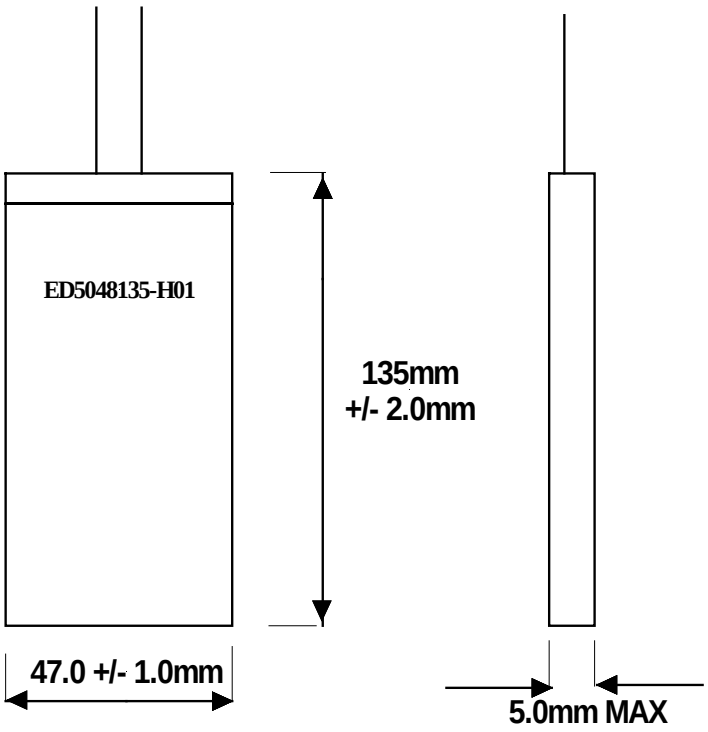
Physical Dimensions:



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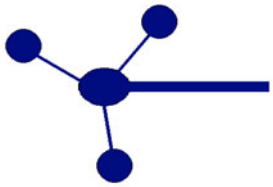

Safety and Handling Instructions:

Read and observe the following warnings and precautions to ensure correct and safe use of these polymer-lithium-ion batteries. Additional instructions and guidelines can be found at: www.advantagecircuits.com/ProductDatasheet/BatterySafety.pdf

Danger!

Failure to observe the following precautions may result in battery leakage, overheating, explosion and / or fire.

- Do not immerse the battery in water or allow it to get wet.
- Do not use or store the battery near sources of heat such as a fire or heater.
- Do not use any chargers other than those specifically designed for these polymer-lithium-ion batteries of this capacity and charge rate.
- Do not reverse the positive(+) and negative(-) terminals.
- Do not connect the battery directly to wall outlets or car cigarette-lighter sockets.
- Do not put the battery into a fire or apply direct heat to it.
- Do not short-circuit the battery by connecting wires or other metal objects to the positive(+) and negative(-) terminals.
- Do not carry or put the battery together with necklaces, hairpins or other metal objects.
- Do not strike, throw or subject the battery to sever physical shock.
- Do not pierce the battery casing or break it open.
- Do not attempt to disassemble or modify the battery in any way.
- Do not recharge the battery near a fire or in extremely hot conditions.
- Do not place the battery in a microwave oven or pressurized container.
- Do not use the battery in combination with primary batteries (such as dry-cell batteries) or batteries of different capacity, type or brand.
- Do not use the battery if it gives off an odor, generates heat, becomes discolored or deformed, or appears abnormal in any way. If the battery is in use or being recharged, remove it from the device or charger immediately and discontinue use.
- Keep the batteries out of the reach of children. If a child somehow swallows a battery, seek medical attention immediately.
- If the battery leaks or emits an odor, immediately remove it from the proximity of any exposed flame.
- If the battery leaks and electrolyte gets in your eyes, do not rub them. Instead, rinse them with clean running water and immediately seek medical attention. If left as is, electrolyte can cause eye injury.

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SAFTEY PERFORMANCE

Item	Condition	Criteria
Overcharge Test	After standard charge the battery shall be charged at 2C/7.4 V for 2.5hrs.	No rupture, No fire, No smoke.
Short circuiting Test	After standard charge the battery shall be subjected to a short-circuit condition with a wire of resistance less than 100mΩfor 1 hour.	No rupture, No fire, No smoke
Over discharge Test	After discharged to the cut-off voltage, the battery shall be subjected to a short-circuit condition with a load of resistance less than 30Ω for 28 hours.	No rupture, No fire, No smoke
High Temperature Storage	Leaving the battery at 85°C for 4 hours after standard charge.	No explosion, No fire. Recovery Capacity 80%C5
Heating Test	A battery is to be heated in convection or circulating air oven. The temperature of the oven is to be raised at a rate of 5±2°C /min to a temperature of 130±2°C at which temperature the oven is to remain for 10 minutes before the test is discontinued	No explosion, No fire.

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