

ASP FACTS

FEATURE: PTC Protection Circuit



ADVANTAGE:

CR123A spiral wound Lithium batteries were designed for use in digital cameras and similar low discharge rate consumer electronics. The cell has the advantage of high energy density compared to more traditional battery chemistries (such as alkaline). The batteries are stable in a wide range of temperatures and have a shelf life of ten years. However, when used in devices such as high intensity flashlights which have a high rate of discharge, internal cell heat can build up. This can result in explosive conditions. The Duracell Battery Company developed the first re-settable current and Thermal Protection System. All ASP batteries incorporate a similar PTC (Positive Thermal Coefficient) device and pressure relief vent. If an ASP battery short circuits or discharges at currents above their design limit, the PTC causes the cell's internal resistance to increase, limiting the amount of current that can be drawn and keeping the internal cell temperature within safe limits. The pressure relief vent prevents excessive internal pressure. These internal safety devices increase battery cost. When using CR123A Lithium batteries in a high discharge rate device such as a flashlight, always insist on PTC batteries.

SPECIFICATION:

- CR123A Lithium batteries
- Positive Thermal Coefficient (PTC) device
- Pressure relief vent

PERFORMANCE:

A PTC circuit and backup pressure relief vent allow safe operation of CR123A Lithium batteries in high discharge devices such as high intensity LED flashlights. The circuit prevents:

- Excessive current during charging
- Excessive current during discharging
- Short circuit
- Over voltage - Overcharging
- Under voltage - Exceeding pre-set depth of discharge (DOD) limits
- High ambient temperature
- Overheating - Exceeding the cell temperature limit
- Pressure build-up inside the cell

SALES STRATEGY:

Explain the safety benefits of using ASP PTC batteries.