

# **Specification Datasheet For**

**UT-2529-14mAh**

April 2015

## Product Characteristics

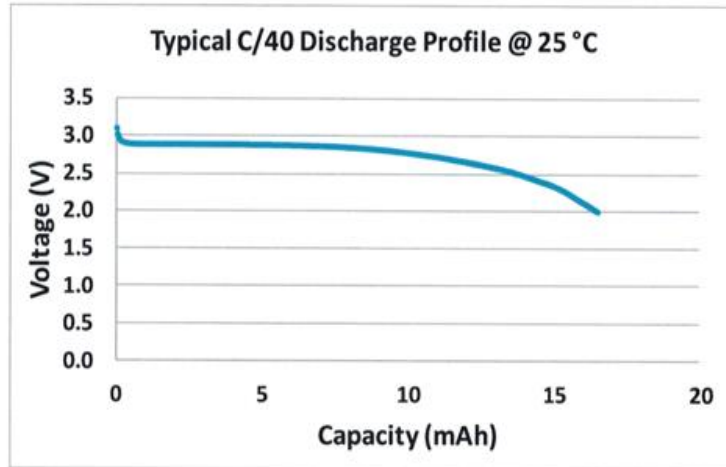
- High Capacity 14 mAh And Thus Longer Operating Time
  - Rated: 14 mAh; + No Upper Limit; -10% Lower Limit
- Small Footprint: 25mm x 29mm x 0.45mm (Including Tab Length)
- UL Certified; ISO 2000 Compliant; Flexible; < 0.450 mm Thin; Safe
- Shelf Life Characteristics:
  - 5 Years Shelf Life To 70% Of Rated Capacity

## TECHNICAL PRODUCT DATA SHEET

Technical Specifications and Performance	
System	Lithium Polymer
Cathode	Manganese Dioxide
Anode	Metallic Lithium
Nominal Voltage (OCV)	≥ 3.0 Volts
Nominal Capacity* (C/40 @ 25 °C)	≥ 14 mAh; + No Upper Limit - 10 % Lower Limit
Max. Cont. Discharge* (25 °C)	C/2 (7 mA)
Operating Temperatures*	-10 °C to 60 °C
Pulse Capabilities*	C/2 Pulse (1 Min. Load, 5 Min. Rest) Capable
Weight	≤ 0.400 g
Maximum Thickness	0.450 mm
Shelf Life*	< 0.5 % Per Month; Expected Life Is 5 Years
Anode Tab / Cathode Tab	Nickel Plated Copper
Jacket (Pouch)	Flexible Aluminum Laminate Foil
<b><i>*Battery Performance Varies With Temperature</i></b>	

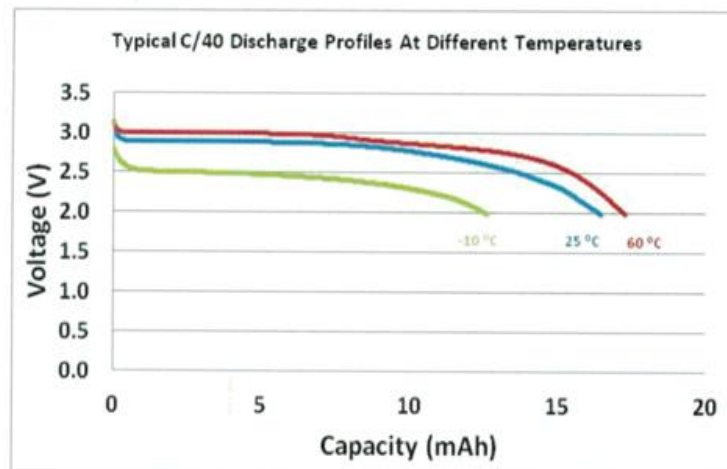
Attachment/Capacity Options Guide		
Attachment	Capacity	Part Number
EC	14mAh	SF-2529-14EC
BC	14mAh	SF-2529-14BC
ZC	14mAh	SF-2529-14ZC

**Nominal Capacity Characteristics:**



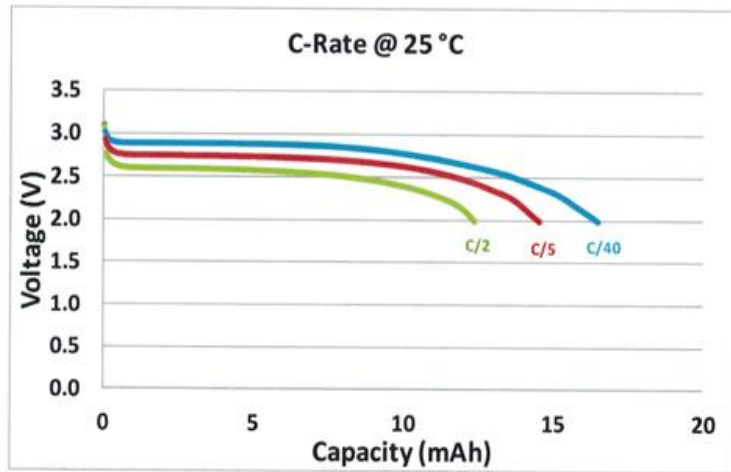
- Typical Voltage-Capacity Discharge Profile Of Cells
  - C/40 (0.35 mA) Constant Current Discharge At 25 °C To 2.0V Cut-Off: Used To Rate Nominal Capacity Of Product Lines

**Effect Of Temperature On C/40 Discharge:**



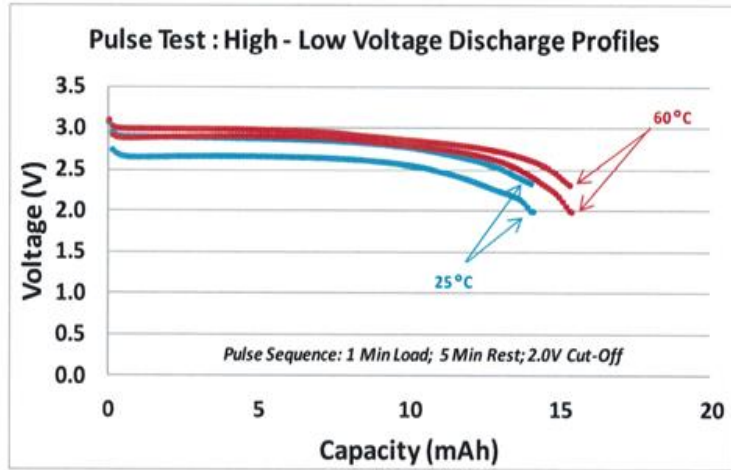
- Discharge Protocol: C/40 (Equivalently 0.35 mA) At -10 °C, 25 °C, & 60 °C
- No Capacity Specifications For Temperatures Other Than 25 °C
- Cells Are Capable Of Operating At Different Temperatures

**Rate Capability At 25 °C:**



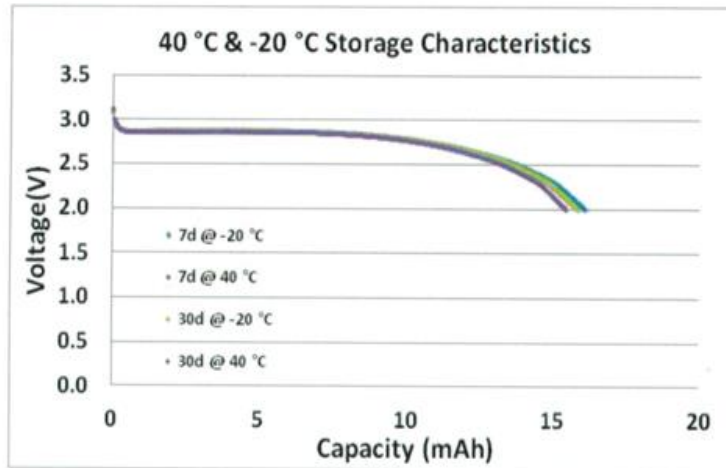
- Discharge Protocol: Different Discharge Rates At The Same Temperature (25 °C)
- No Capacity Specifications At Different Rates Other Than At C/40 (0.35 mA) and C/5 (2.8 mA)
- Cells Are Capable Of Operating At Different Discharge Rates

**High Rate Pulse At Different Temperatures:**



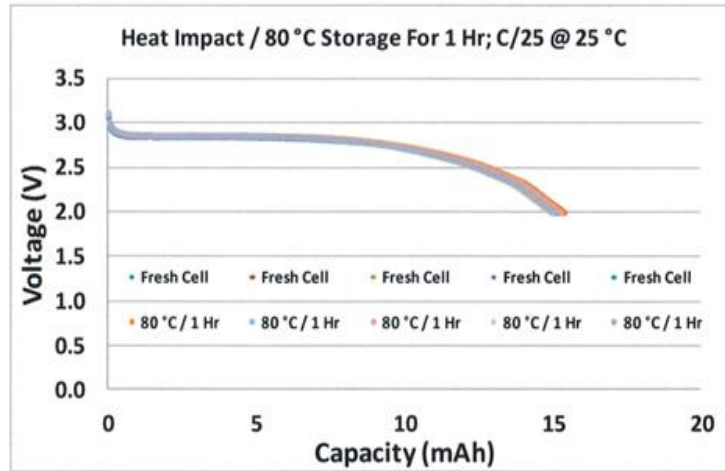
- Capable Of High Rate Pulses - Pulsing At The Maximum Specified Continuous Discharge Rate Of C/2 (7 mA) Is Not An Issue
- High Rate Pulse Discharge Is Expected To Yield Higher Capacity Than Corresponding Rate Continuous Discharge

**Effect Of Temperature Storage On C/40 Discharge:**



- 7-Day Vs. 30-Day Storage Comparison Shows That Nominal Capacity Is Hardly Affected Over Short Storage Periods - Less Capacity Loss At Lower Temperature Storage
- Storage Of Cells At Specified Temperature Limits Over Short Periods Not Detrimental To Performance
  - Lower Temperatures Recommended For Extended Storage – [See BrightVolt's Storage Document](#)

### Heat Impact Characteristics:



- Heat Impact Demonstrated By Storage At 80 °C For One Hour, Followed By C/25 Discharge At 25 °C
  - No Loss In Discharge Capacity Compared With A Fresh Cell

### Shelf Life Characteristics:

**Note:** BrightVolt Does Not Use The Conventional High Temperature Storage ALT Extrapolation To Determine Shelf Life Characteristics As It Is **NOT** Universal For All Battery Chemistries And Designs. Rather, BrightVolt Relies On “Real Time” Data from Storage To Establish Higher Temperature Capacity Losses, And Thus Shelf Life Characteristics Of Battery Products.

- Results Of % ‘Remaining Capacity’ Vs. ‘Storage Time’ Is Used To Quantify Shelf Life. BrightVolt’s SF-2529-14XC Battery Products Exhibit The Following Characteristics:
  - < 0.5% Per Month Capacity Loss On A Linear Average; Expected Shelf Life: > 5 Years

#### Shelf-Life Characteristics Of Typical Longer Life SF-2529-14XC Battery Products

