

Primary lithium battery

LM 33550

3 V Primary lithium-manganese dioxide (Li-MnO₂)
 High power
 D-size spiral cell

For applications requesting excellent voltage response and operating life in - 40°C/+ 70°C environments



Benefits

- High voltage response, stable during most of the lifetime of the application
- High drain/pulse capability
- Minimum voltage delay after long dormant periods
- Competitive capacity at high current and low temperature
- Easy integration into compact systems
- Low self-discharge rate (less than 2% after 1 year of storage at + 20°C)

Key features

- Steel container
- Hermetic glass-to-metal sealing
- Built-in safety vent
- Non-corrosive electrolyte
- Restricted for transport (Class 9)
- Made in the USA

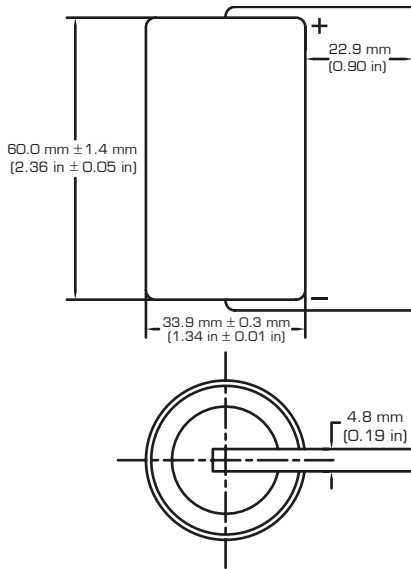
Main applications

- Radio communication
- Measuring equipment
- Marine equipment
- ELTS, EPIRBS, etc.

Cell size reference	R20 - D
Electrical characteristics	
<i>(Typical values relative to cells stored for one year or less at + 30°C max.)</i>	
Nominal capacity <i>(at 250 mA + 20°C 2.0 V cut-off. The capacity restored by the cell varies according to current drain, temperature and cut-off).</i>	13 Ah
Open circuit voltage (at + 20°C)	3.2 V
Nominal voltage (under 1 mA at + 20°C)	3.0 V
Pulse capability : Typically up to 8 A	
<i>(The voltage readings may vary according to the pulse characteristics, the temperature, and the cell's previous history. Fitting the cell with a capacitor may be recommended in severe conditions. Consult Saft.)</i>	
Maximum recommended continuous current <i>(To maintain cell heating within safe limits)</i>	4 A
Storage (recommended) <i>(for more severe conditions, consult Saft)</i>	+ 30°C (+ 86°F) max
Operating temperature range <i>(Operation below ambient T may lead to reduced capacity and lower voltage readings)</i>	- 40°C /+ 70°C
Physical characteristics (with sleeve)	
Diameter (max)	34.2 mm (1.35 in.)
Height (max, without tabs)	61.4 mm (2.42 in.)
Typical weight	120 g (4.23 oz)
Li metal content	approx. 3.7 g
Standard cell comes with vent washer at the bottom and two radial 0.15 mm thick nickel tabs. Other configurations available on request.	



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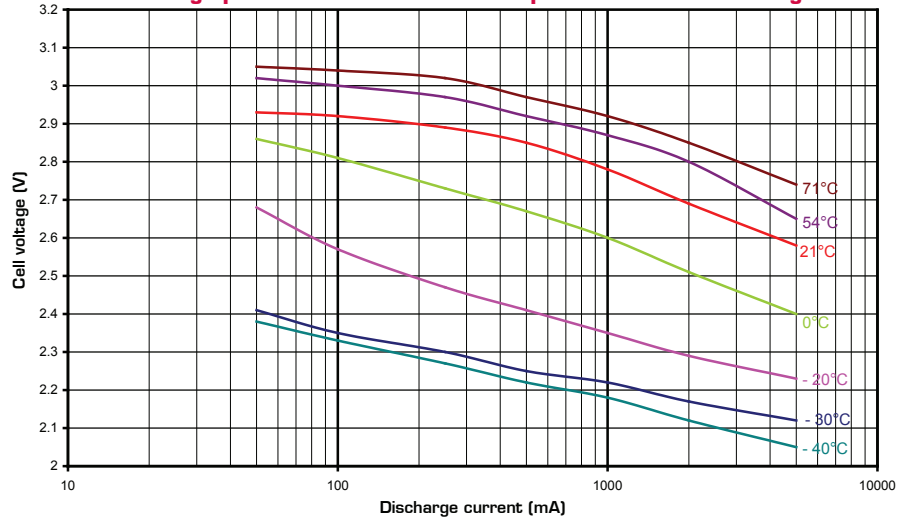
Storage

- The storage area should be clean, cool, dry and ventilated
- Do not obstruct venting mechanism

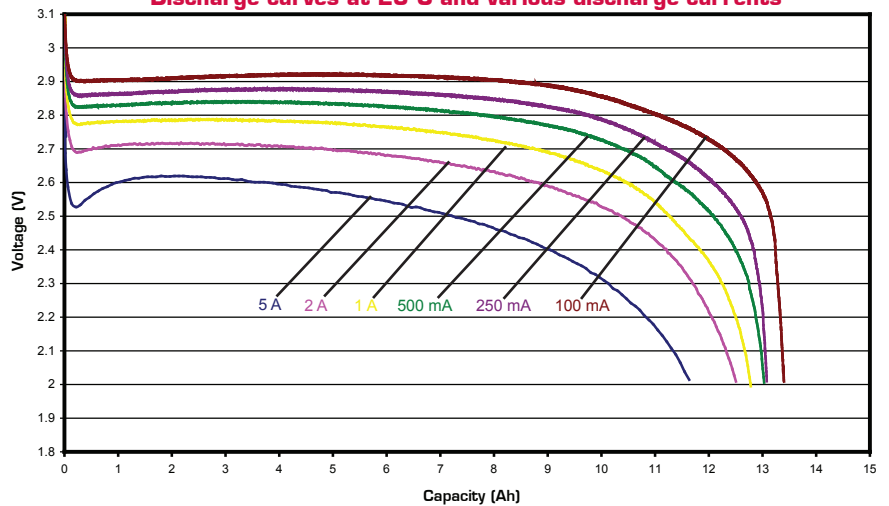
Warning

- Fire, explosion and burn hazard
- Do not recharge, short circuit, crush, disassemble, heat above 70°C (158°F), incinerate, or expose contents to water.
- Do not solder directly to the cell (Use tabbed cell versions instead.)

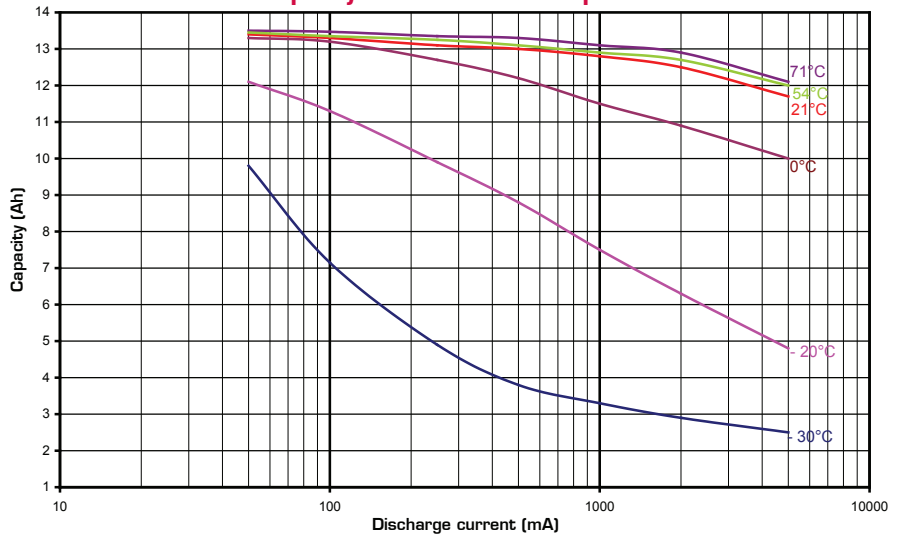
Voltage plateau vs. current and temperature at mid-discharge



Discharge curves at 20°C and various discharge currents



Capacity vs. current and temperature



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For more details on primary lithium technologies please refer to Primary Lithium Batteries Selector Guide Doc No 31048-2. Published by the Communications Department. Photo credit: Saft



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