

Primary Li-MnO₂ battery

MR 509 battery

9 V lithium manganese dioxide (Li-MnO₂) battery

Saft's MR 509 battery has a 3S1P configuration of C size Li-MnO₂ cells type M 52 HR with spiral electrode design. It is used as power source for the MR 509 emergency radio unit in military and civil aircraft and features a proven shelf-life of 10+ years.

Benefits

- High drain and pulse capability
- High voltage response, stable even after long dormant periods
- No voltage delay
- Low self-discharge compatible with long shelf-life of 10+ years (less than 1% after 1 year of storage at +20 °C)
- High energy density, lightweight
- Wide operating temperature range
- Superior resistance to corrosion

Key features

- Three M 52 HR cells in 3S1P configuration
- Safe, hermetic and non-pressurized cell construction with glass-to-metal seal, safety vent and stainless steel container
- Short-circuit proof due to integrated polyswitch
- Restricted for transport (class 9)
- Manufactured in Germany

Designed to meet all major quality, safety and environment standards

- Safety: UL 1642 (File MH 61234), IEC 60086-4
- Military: VG 96915-180 (German military standard)
- Aviation: Certification of Approval as manufacturer of aircraft systems for the German Army (No. BAAINBw-C0303 - F01/14/01)
- Transport: UN 3090 and UN 3091
- Quality: ISO 9001, Saft World Class continuous program
- Environment: ISO 14001, RoHS and REACH compliant

Typical applications

- Emergency radio unit for aircraft



Electrical characteristics

(Typical values related to batteries stored up to one year at +30 °C max)

Typical capacity (at 400 mA, +21 °C, 6.0 V cut-off) ⁽¹⁾	4.5 Ah
Open circuit voltage	9.9 V
Nominal voltage (under 1 mA at +20 °C)	9.0 V
Nominal energy (at 200 mA, +20 °C, 6.0 V cut-off)	42 Wh
Maximum continuous discharge current ⁽²⁾	1.5 A

Operating conditions

Operating temperature range ⁽³⁾	-40 °C / +72 °C [-40 °F / +161 °F]	
Storage temperatures	Recommended	+35 °C [+95 °F] max.
	Allowable ⁽³⁾	-55 °C / +72 °C [-67 °F / +161 °F]

Physical characteristics

Length	75 mm / 2.95 in
Width	37 mm / 1.46 in
Height (max)	54 mm / 2.13 in
Battery case	Plastic hard case
Terminals	Connecting socket
Battery weight	180 g
Li metal content	4.7 g

References

Saft Part No.	4439270104
NSN (NATO Stock No.)	6135-12-353-2558

⁽¹⁾ Can vary depending on current drain, temperature and cut-off voltage.

⁽²⁾ Current limit of the polyswitch at +85 °C. Higher currents are possible at lower temperatures and for pulses. Consult Saft.

⁽³⁾ Operating temperatures up to +85°C under certain conditions. Consult Saft.

⁽⁴⁾ Long-time storage at high temperature may affect performance. Consult Saft.

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