

G U A R D I A N

NON-SPILLABLE RECHARGEABLE BATTERIES



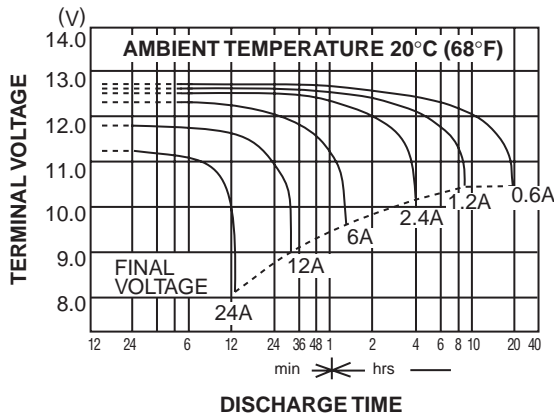
DG 12-12

Guardian rechargeable batteries are based on valve-regulated, lead-acid technology. The dilute sulphuric acid electrolyte is completely immobilized in an absorptive glass mat between the plates. Gases generated during overcharge are internally recombined at a high efficiency. The small amount of gas that doesn't recombine is allowed to escape by means of a special one-way vent valve, thus avoiding excessive pressure build-up. As a result of these design features, the battery is leak proof, non-corrosive, maintenance-free, and usable in any position.

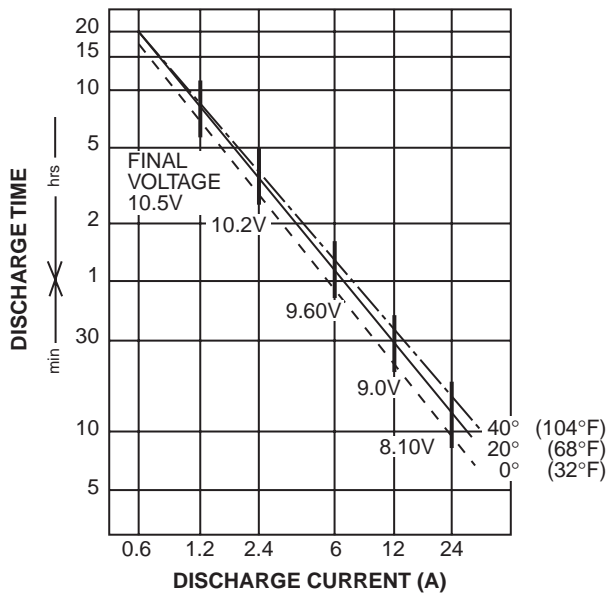
PERFORMANCE SPECIFICATIONS

Nominal Voltage	12 volts (6 cells in series)
Nominal Capacity	
20 hour rate (600mA to 10.50 volts)	12.0 A.H.
10 hour rate (1100mA to 10.50 volts)	11.0 A.H.
5 hour rate (2000mA to 10.20 volts)	10.0 A.H.
1 hour rate (7200mA to 09.00 volts)	7.2 A.H.
Approximate Weight	10.7 pounds (4.8 kg)
Energy Density (20 hour rate)	1.14 Watt-hours/cubic inch (69.0 Watt-hours/l)
Specific Energy (20 hour rate)	13.1 Watt-hours/pound (28.8 Watt-hours/kg)
Internal Resistance (Fully Charged Battery)	25 milliohms (approximately)
Maximum Discharge Current (5 min.)	36 amperes
Maximum Short-Duration Discharge Current (<5 sec.)	120 amperes
Standard Terminals	Type A - Polarized quick disconnect tabs – Postive: 0.250" x 0.032" Negative: 0.187" x 0.032". Mate with AMP, INC. FASTON "250/187" series.
Vibration Test (2000 cycles/minute, 0.10 inch excursion, 2 hours)	No loss in capacity or performance
Shelf Life – % of nominal capacity at 68°F (20°C)	
1 Month	97%
3 Months	91%
6 Months	83%
Operating Temperature Range	
Charge (temp. compensated)	–4°F (–20°C) to 122°F (50°C)
Discharge	–4°F (–60°C) to 140°F (60°C)
Case	High-Impact Polystyrene

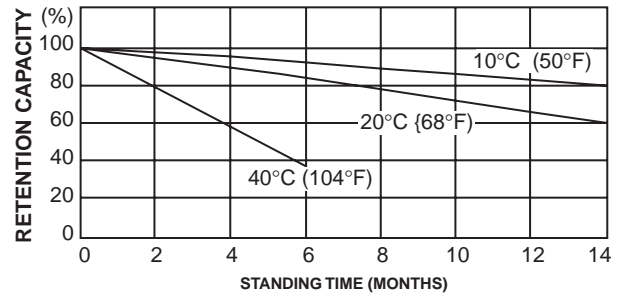
DISCHARGE CHARACTERISTICS



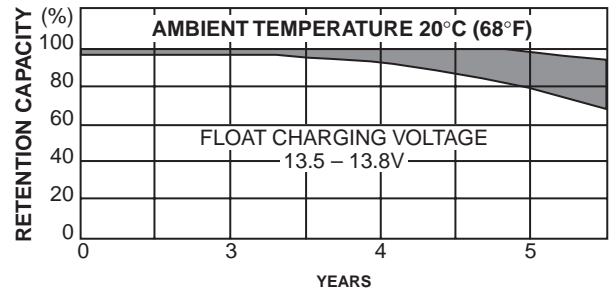
DISCHARGE TIME vs. DISCHARGE CURRENT



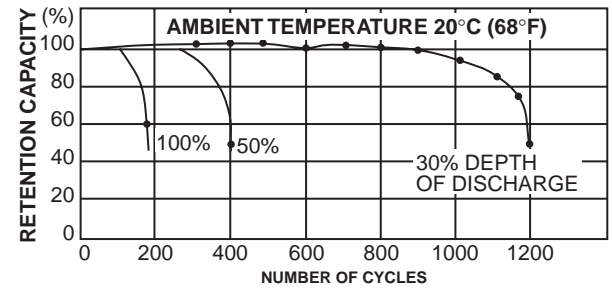
SHELF LIFE AND STORAGE



LIFE CHARACTERISTICS IN STAND-BY USE



LIFE CHARACTERISTICS IN CYCLIC USE



CHARGING

Cycle Applications: Limit initial current to 2400mA. Charge until battery voltage (under charge) reaches 14.40 to 14.70 volts at 68°F (20°C). Hold at 14.40 to 14.70 volts until current drops to approximately 120mA. Battery is fully charged under these conditions, and charger should either be disconnected or switched to "float" voltage.

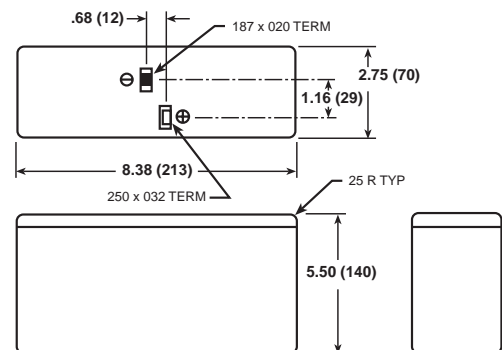
"Float" or "Stand-By" Service: Hold battery across constant voltage source of 13.50 to 13.80 volts continuously. When held at this voltage, the battery will seek its own current level and maintain itself in a fully charged condition.

NOTE: Due to the self-discharge characteristics of this type of battery, it is imperative that they be charged after 6-9 months of storage, otherwise permanent loss of capacity might occur as a result of sulfation.

M-0578 Rev. 7-99

PHYSICAL DIMENSIONS

DIMENSIONS: Inches (mm)



Tolerances are ±0.04 in. (±1mm) and ±0.08 in. (±2mm) for height dimensions.



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