



EnerRocket™
CONTINUOUSLY SAFEGUARDING

ES 12-12

SMF VRLA RECHARGEABLE BATTERY

**LONG
LIFE
SERIES**

APPLICATIONS

UPS Systems
Telecommunication Systems
Fire Alarm Safety & Security Systems
Medical Equipment

COMPLIANCE STANDARDS

IEC 60896 PART 21 & 22
BS6290-4

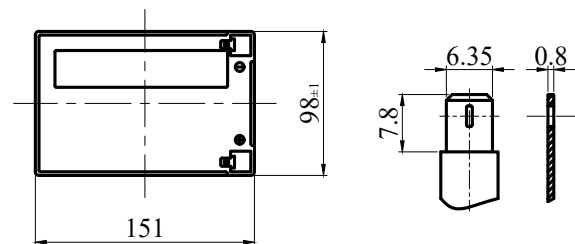
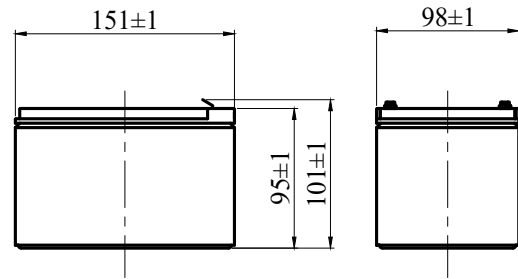
TECHNICAL FEATURES



- Non-Spillable Sealed Construction
- Seal Lead Acid Battery
- Absorptive Glass Mat System (AGM System)
- ABS (Acrylonitrile Butadiene Styrene) construction (FR optional)
- Gas Recombination
- Venting System for low internal pressure
- Low Self-Discharge
- Heavy-Duty, Highly Optimized Grids
- High Power Output
- Wide Operating Temperature
- Maintenance-Free Operation

CHARACTERISTICS

Nominal Voltage	12 V	
Design Life	10 Years	
Capacity 25°C (77°F)	20 Hour rate	12Ah
	10 Hour rate	11.4Ah
	5 Hour rate	10.25Ah
Internal Resistance (25°C, 100% Charge)		≤ 19 mΩ
Self Discharge (20°C)	1 Month	Remaining Capacity 97%
Operating Temperature	Discharge	-20°C - 60°C
	Charge	-10°C - 60°C
	Storage	-20°C - 60°C
Normal Operating Temperature		25°C ± 3°C
Maximum Discharge current		180A (5sec)
Maximum Charging current		4.8A
Short Circuit Current		600A
Charge Methods		14.4 to 14.7V
Constant Voltage Charge 77°F (25°C) - Cycle use		Temp. Compensation -30mV/°C
Charge methods		13.4 to 13.8V
Constant Voltage Charge 77°F (25°C) - Standby Use		Temp. Compensation -20mV/°C



SPECIFICATIONS

Length	Width	Height	Total Height	Weight (kg)
151 mm	98 mm	95mm	101 mm	3.67 ± 5%

CONSTANT CURRENT DISCHARGE (Amperes) AT 25°C

End Voltage Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60	46.4	31.7	24.8	13.8	8.14	3.18	2.12	1.18	0.61
1.65	45.0	30.8	24.3	13.5	8.04	3.15	2.10	1.17	0.61
1.70	43.5	29.9	23.7	13.3	7.94	3.12	2.07	1.16	0.61
1.75	42.1	29.0	23.2	13.0	7.85	3.09	2.05	1.14	0.60
1.80	40.6	28.2	22.6	12.7	7.75	3.06	2.02	1.12	0.59

CONSTANT POWER DISCHARGE (Watts) AT 25°C

End Voltage Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60	86.2	58.7	46.7	27.0	16.1	6.50	4.20	2.36	1.22
1.65	84.1	57.7	46.0	26.6	16.0	6.44	4.17	2.33	1.21
1.70	81.9	56.6	45.3	26.2	15.8	6.37	4.14	2.31	1.20
1.75	79.8	55.6	44.6	25.8	15.7	6.31	4.11	2.29	1.18
1.80	77.6	54.6	43.9	25.4	15.5	6.24	4.08	2.26	1.17



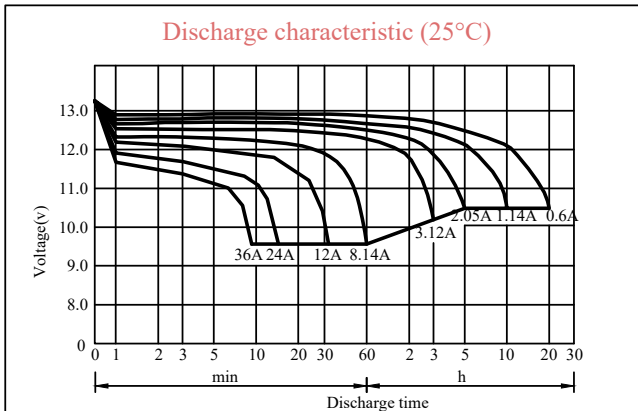
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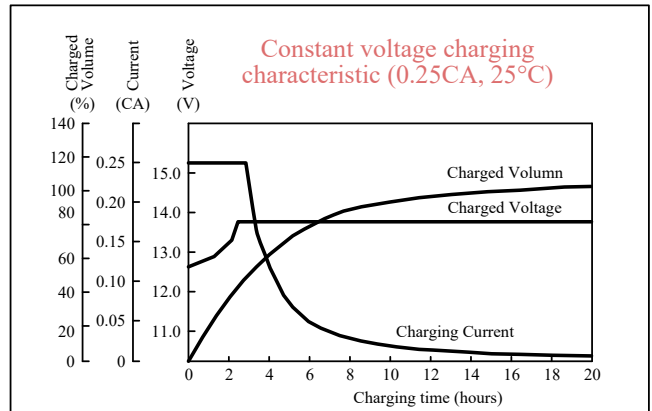
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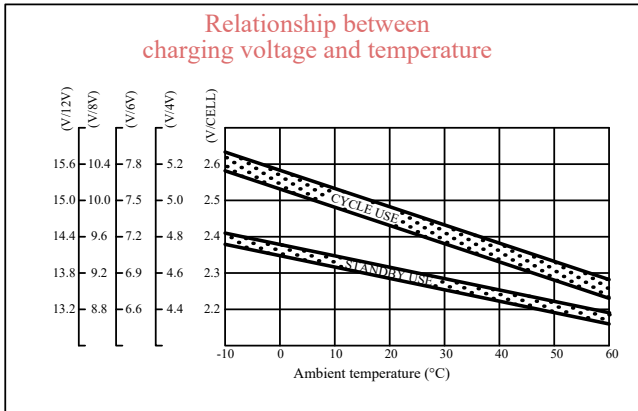
Discharge characteristic (25°C)



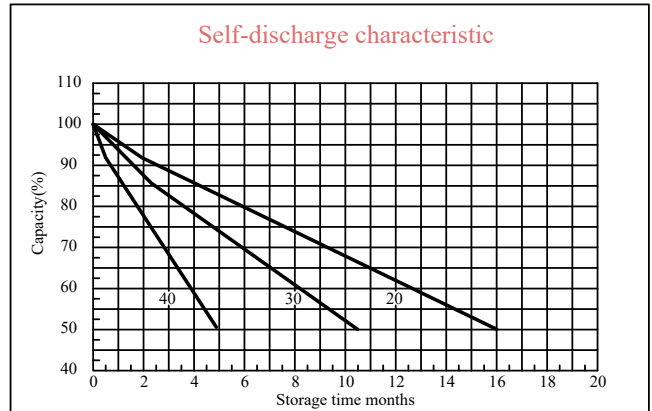
Constant voltage charging characteristic (0.25CA, 25°C)



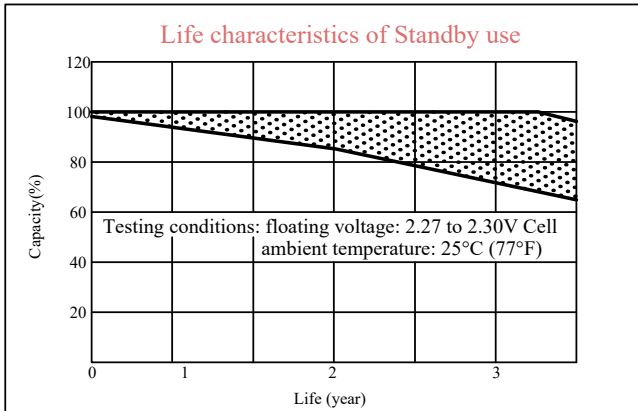
Relationship between charging voltage and temperature



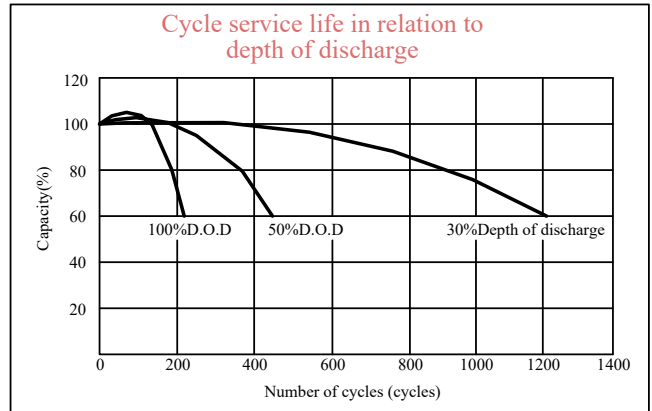
Self-discharge characteristic



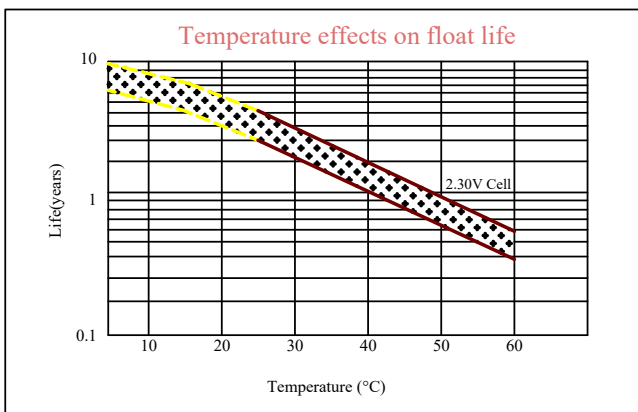
Life characteristics of Standby use



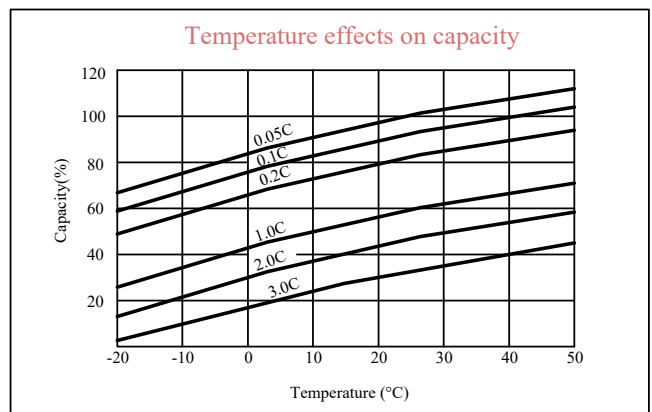
Cycle service life in relation to depth of discharge



Temperature effects on float life



Temperature effects on capacity



v205.2