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HR SERIES-HIGH RATE **BATTERIES**

HR 1280W



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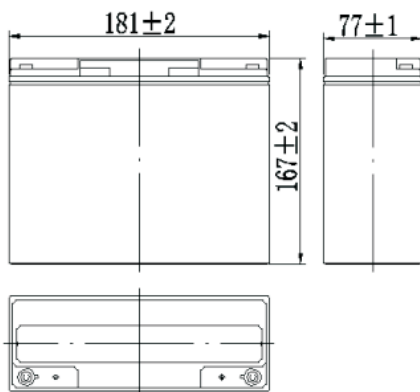
HR 1280W



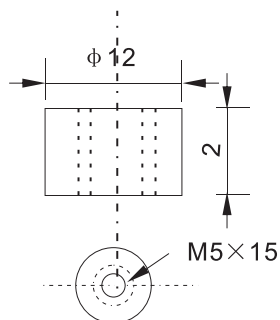
SPECIFICATIONS

Nominal Voltage	12V	
Number of Cell	6 cells	
Rated Capacity (15min. rat)	80 Watts/cell	
Dimensions	Length	181±2mm(7.13inch)
	Width	77±1mm(3.03inch)
	Height	167±2mm(6.57inch)
	Total Height	167±2mm(6.57inch)
Approx. Weight	5.9kg (12.98lbs)±3%	

Outer Dimensions (mm)



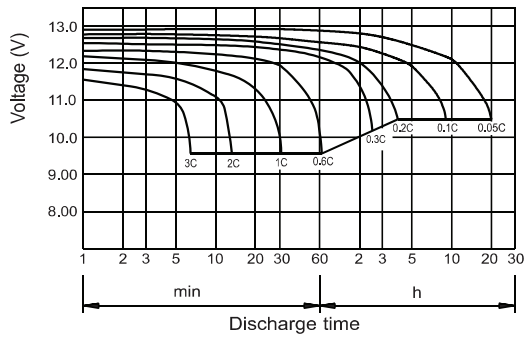
Terminal Type (mm)



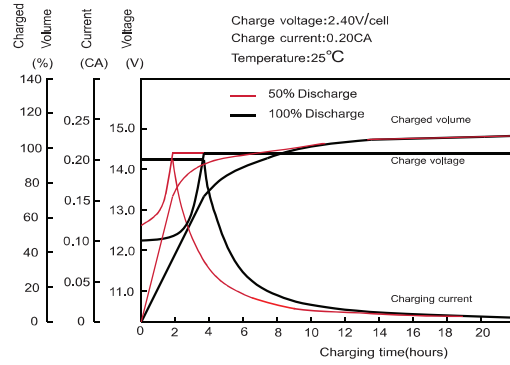
CHARACTERISTICS

Capacity (20HR, 25°C)	22Ah	
Capacity (15min.rate, 25°C)	80 Watts/cell	
Terminal Type	T2/T1	
Internal Resistance (Fully Charged, 25°C)	Approx. 12mΩ	
Capacity Affected by Temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-Discharge (25°C)	3 months	Remaining Capacity: 91%
	6 months	Remaining Capacity: 82%
	12months	Remaining Capacity: 65%
Nominal Operating Temperature	25±3°C (77±5°F)	
Operating Temperature Range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(4°F~122°F)
Float Charging Voltage (25°C)	13.50 to 13.80V Temperature Compensation: -18mV/°C	
Cyclic Charging Voltage (25°C)	14.50 to 15.00V Temperature Compensation: -30mV/°C	
Maximum Charging Current	5.4A	
Terminal Material	Copper	
Maximum Discharge Current	270A(5 sec)	
Design Floating Life(20°C)	5 Years	

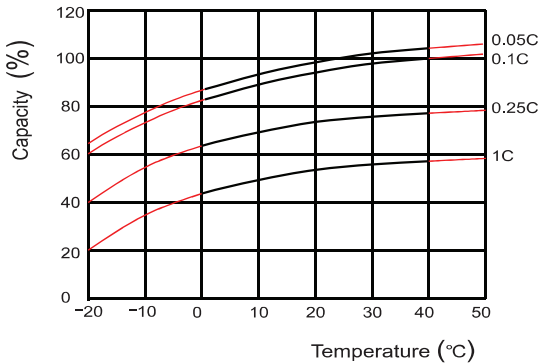
Discharge Characteristics



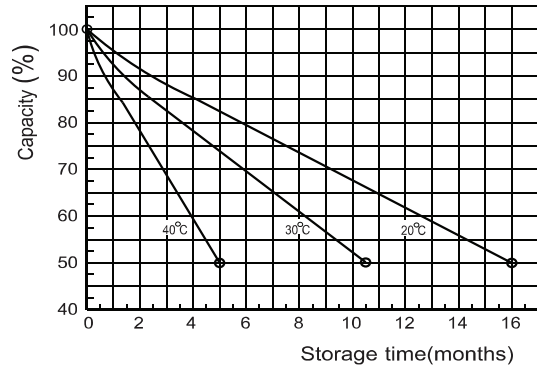
Charging Characteristics (25°C)



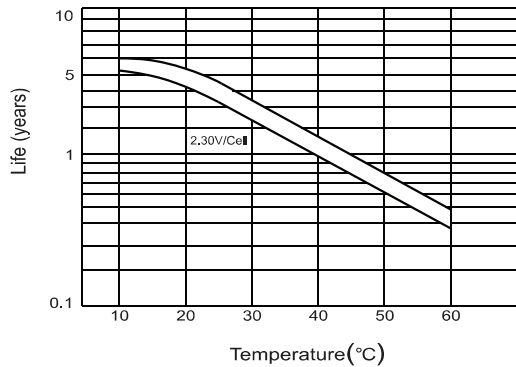
Effect of Temp on Capacity



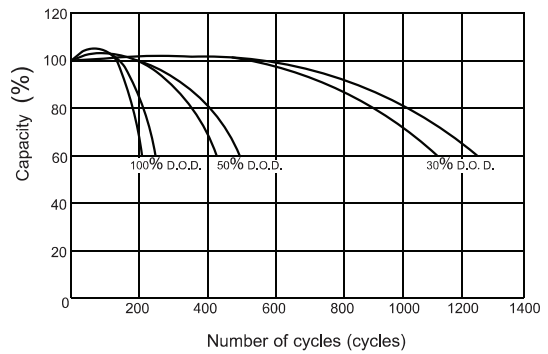
Self-Discharge Characteristics



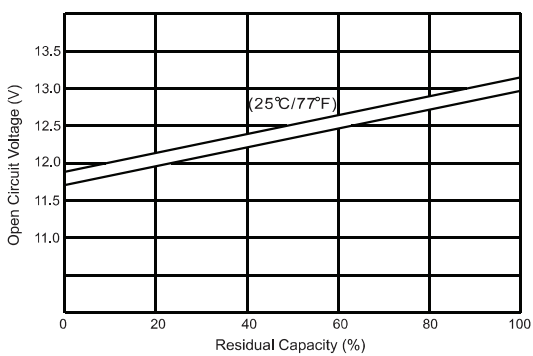
Floating Life on Temperature



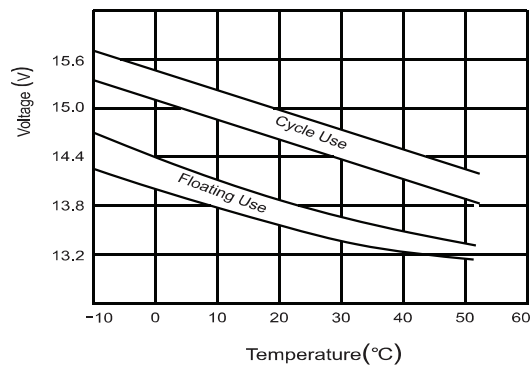
Cycle Service Life on D.O.D (25°C)



Relationship for OCV and Capacity (25°C)



Relationship for Charging Voltage and Temp



Construction

Component	Positive Plate	Negative Plate	Container	Cover	Separator	Electrolyte	Safety Valve	Terminal
Raw material	Lead Dioxide	Lead	ABS	ABS	AGM	Sulfuric Acid	Rubber	Copper

Constant Current Discharge Characteristics Unit: A(25°C, 77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	85.9	52.9	41.6	32.9	22.3	16.5	13.5	7.64	5.43	4.37	3.75
1.67V/cell	82.6	50.9	40.0	31.6	21.4	15.9	13.0	7.35	5.22	4.20	3.61
1.70V/cell	78.9	48.6	38.6	30.4	20.7	15.4	12.7	7.28	5.18	4.17	3.58
1.75V/cell	76.8	47.3	37.6	29.7	20.4	15.1	12.5	7.24	5.16	4.15	3.56
1.80V/cell	73.5	45.3	36.3	28.7	19.9	14.7	12.2	7.13	5.12	4.12	3.54

Constant Power Discharge Characteristics Unit: W(25°C, 77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	60min	2h	3h	4h	5h
1.60V/cell	167	104	84.0	65.7	44.5	32.9	27.0	15.3	11.0	8.79	7.55
1.67V/cell	159	98.7	80.1	62.6	42.4	31.4	25.7	14.6	10.5	8.37	7.19
1.70V/cell	151	94.3	76.4	60.1	41.1	30.4	25.1	14.5	10.4	8.34	7.17
1.75V/cell	148	91.8	74.4	58.9	40.3	29.8	24.7	14.4	10.4	8.28	7.12
1.80V/cell	141	87.9	71.8	56.8	39.3	29.1	24.2	14.2	10.3	8.03	6.90





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