

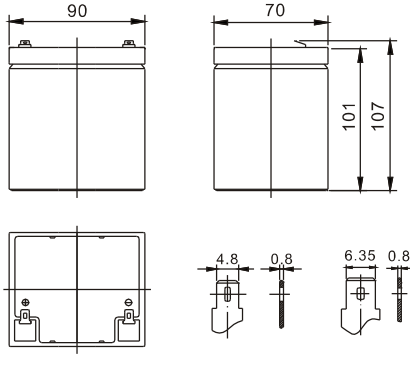
High Rate Series HR1221W

(12V21Watts/cell@15min.Rate)

3DS[®]

BATTERY

Dimension(mm)



T1 T2
Terminal

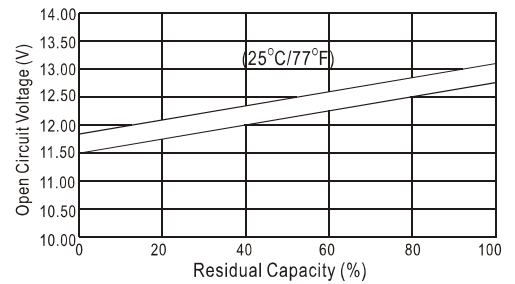
Specification

Nominal Voltage	12 V	
Capacity(20HR, 25°C)	5Ah(21Watts/cell@15min.Rate)	
Dimension	Length	90mm (3.5inch)
	Width	70mm (2.8inch)
	Height	101mm (4.0inch)
	Total Height(T1/T2)	107mm (4.2inch)
Approx. Weight	1.80kg (3.97lbs)	

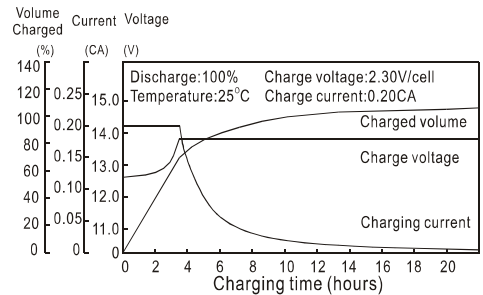
Characteristics

Capacity 20°C (68°F) To 1.70V/Cell	20 hour rate	5Ah
	10 hour rate	4.7Ah
	5 hour rate	4.4Ah
	1 hour rate	3.63Ah
	15 min rate	2.8Ah
Internal resistance(Fully charged, 25°C)	Approx. 32mΩ	
Capacity affected by temperature (20HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 month	Remaining Capacity: 91%
	6 month	Remaining Capacity: 82%
	12 month	Remaining Capacity: 65%
Nominal operating temperature	25°C ±3°C (77°F ±5°F)	
Operating temperature range	-15°C ~ 50°C (5°F ~ 122°F)	
Float charging voltage(25°C)	13.50 to 13.80V	
Cyclic charging voltage(25°C)	14.50 to 14.90V	
Maximum charging current	1.5A	
Terminal material	Copper	
Maximum discharge current	75A(5 sec.)	

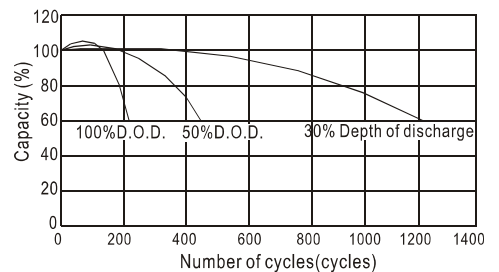
The Relationship for Open Circuit Voltage and Residual Capacity (25°C)



Charging Characteristics(25°C)



Cycle Life(25°C)



Constant Current Discharge Characteristics (A, 25°C)

F.V/TIME	5min	10min	15min	30min	60min	3h	5h	10h	20h
1.60V/cell	24.0	15.3	11.6	6.60	3.78	1.29	0.89	0.48	0.25
1.67V/cell	23.2	14.8	11.3	6.44	3.69	1.28	0.88	0.47	0.25
1.70V/cell	22.8	14.5	11.1	6.34	3.63	1.28	0.88	0.47	0.25
1.80V/cell	21.4	13.7	10.6	6.02	3.45	1.25	0.86	0.47	0.25

Constant Power Discharge Characteristics (Watt/Cell, 25°C)

	5min	10min	15min	30min	60min	3h	5h	10h	20h
45.1	29.1	22.5	12.9	7.37	2.59	1.78	0.95	0.51	
43.7	28.1	22.0	12.5	7.19	2.57	1.76	0.95	0.50	
42.9	27.6	21.6	12.4	7.08	2.55	1.75	0.95	0.50	
40.3	26.0	20.5	11.7	6.72	2.50	1.72	0.95	0.50	

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