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# HR 1227W ▶ 12V 27W

HR 1227W is specially designed for high efficient discharge application. Its characteristics are high energy density, small footprint and high discharge efficiency. It can be used for more than 260 cycles at 100% discharge in cycle service, up to 5 years in standby service.



MH14533(N)



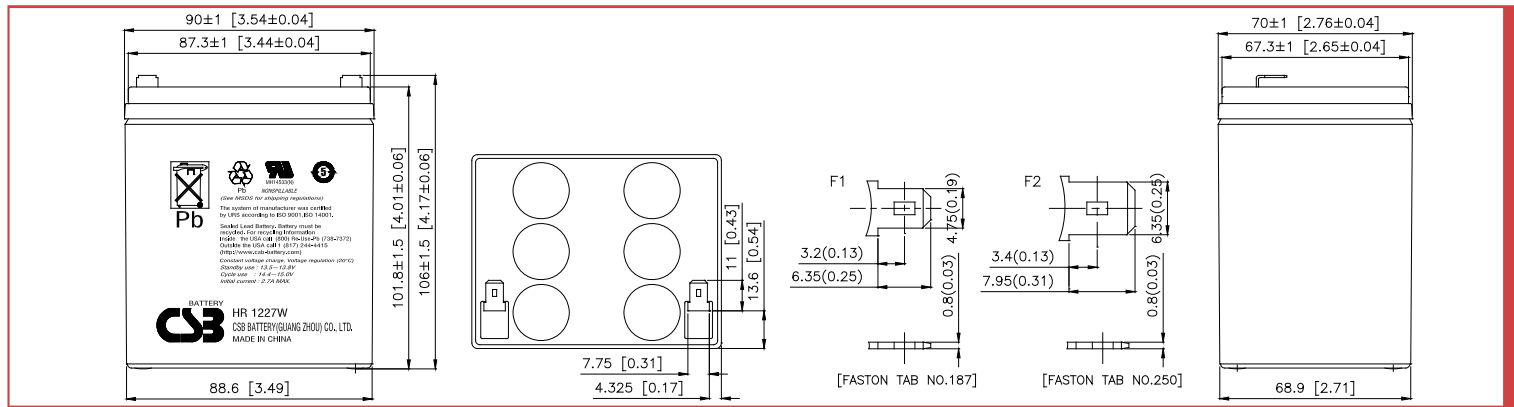
CSB-manufactured VRLA batteries are UL-recognized components under UL924 and UL1989.

CSB is also certified by ISO 9001 and ISO 14001.

## Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	27W @ 15min-rate to 1.67V per cell @25 °C(77°F) 6.8 Ah @ 20hr-rate to 1.75V per cell @25 °C(77°F)
Weight	Approx. 1.97 kg(4.34 lbs)
Maximum Discharge Current	100/130A(5sec)
Internal Resistance	Approx. 19 mΩ
Operating Temperature Range	Discharge: -15°C~50°C ( 5°F~122°F) Charge: -15 °C~40°C ( 5°F~104°F) Storage: -15°C~40°C ( 5°F~104°F)
Nominal Operating Temperature Range	25°C±3°C(77°F±5°F)
Float Charging Voltage	13.5 to 13.8 VDC/unit Average at 25°C(77°F)
Recommended Maximum Charging Current Limit	2.7A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C(77°F)
Self Discharge	CSB Batteries can be stored for more than 6 months at 25°C(77°F). Please charge batteries before using. For higher temperatures the time interval will be shorter.
Terminal	F1/F2-Faston Tab187/250
Container Material	ABS(UL 94-HB/File E50263)*Flammability resistance of (UL 94-V0/File E88637) can be available upon request.

Dimensions :	Overall Height (H)	Container height (h)	Length (L)	Width (W)
Unit: mm (inch)	106±1.5 (4.17±0.06)	101.8±1.5 (4.01±0.06)	90±1 (3.54±0.04)	70±1 (2.76±0.04)



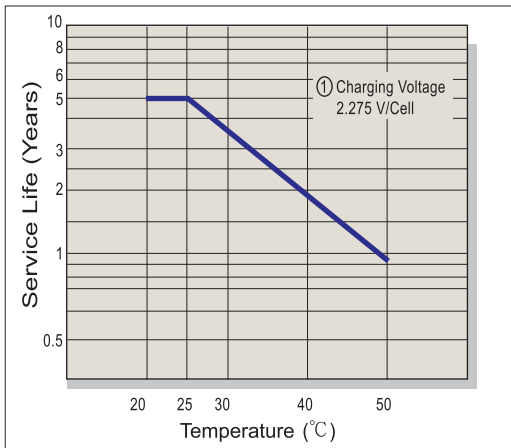
## Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	55.4	36.5	27.5	22.1	18.7	13.6	10.9	7.88	4.55	3.23
1.67V	50.4	34.3	26.5	21.4	18.3	13.5	10.8	7.83	4.49	3.18
1.70V	45.6	32.2	25.3	20.8	17.8	13.1	10.7	7.77	4.47	3.16
1.75V	41.0	29.9	24.2	20.0	17.2	12.8	10.6	7.68	4.43	3.13
1.80V	36.4	27.5	22.7	18.9	16.3	12.4	10.3	7.49	4.35	3.08
1.85V	31.7	24.8	20.7	17.4	15.2	11.7	9.59	7.11	4.16	2.96

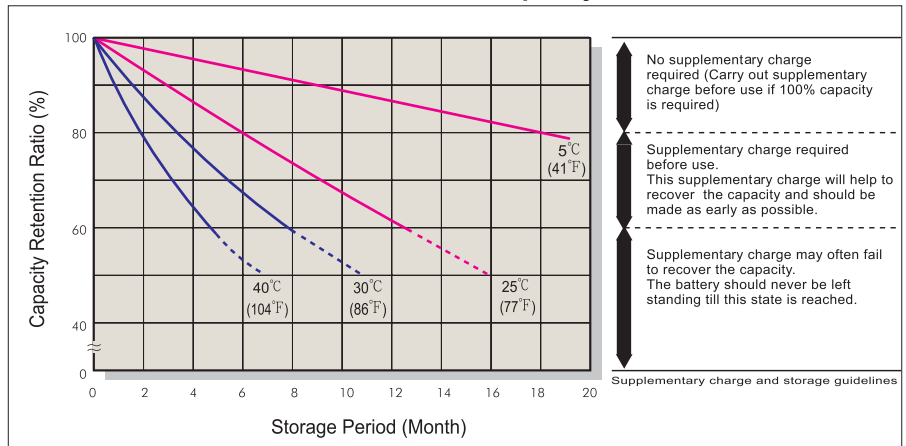
## Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	503	383	305	254	219	163	127	92.4	52.4	37.4
1.67V	469	358	288	242	211	162	126	91.6	52.6	37.3
1.70V	455	347	280	236	206	161	125	91.3	52.3	37.1
1.75V	428	327	268	229	200	158	124	90.3	51.8	36.8
1.80V	403	309	255	218	192	153	120	88.2	51.3	36.7
1.85V	377	290	240	208	184	144	114	84.4	49.2	35.1

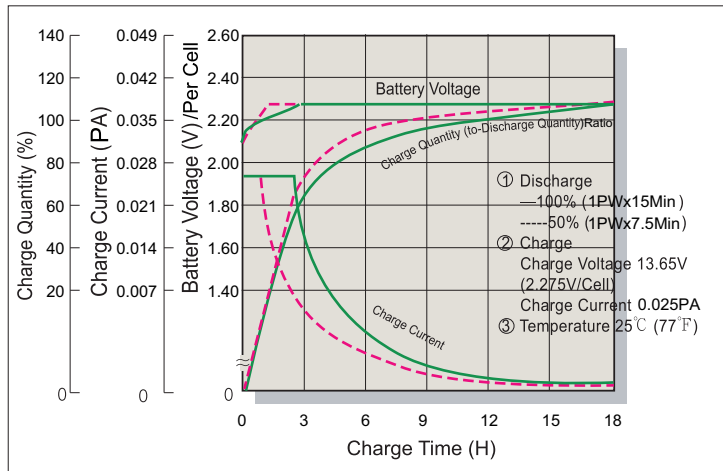
### Trickle (or Float) Service Life



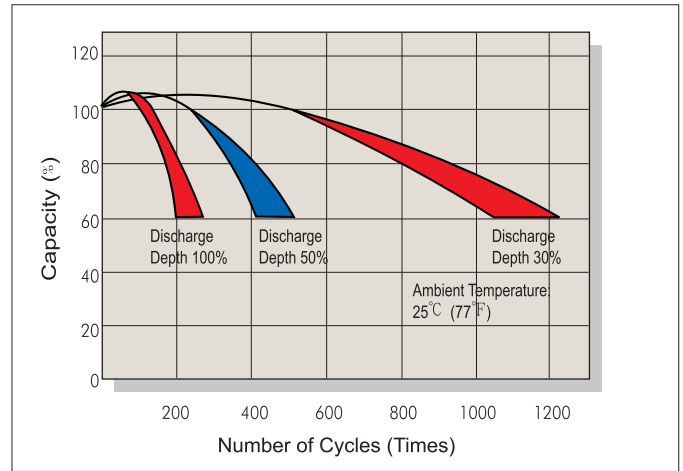
### Capacity Retention Characteristic



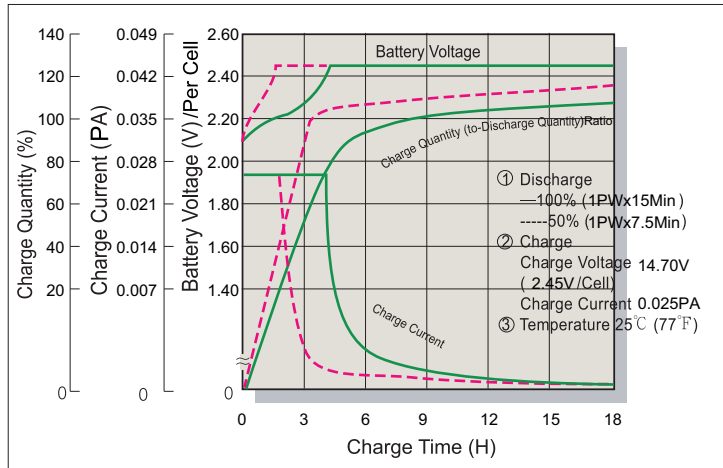
### Battery Voltage and Charge Time for Standby Use



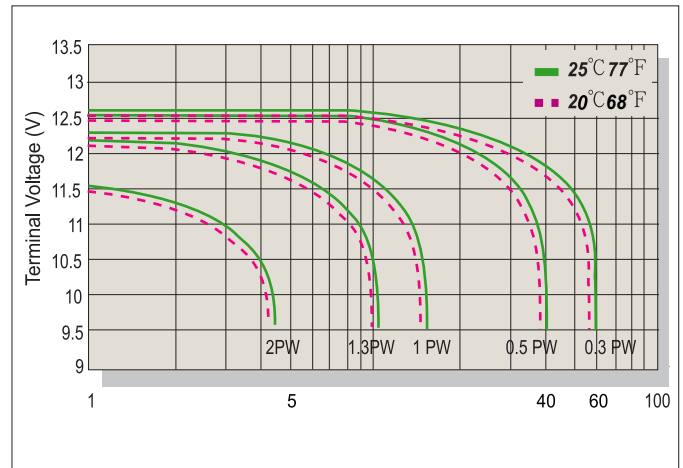
### Cycle Service Life



### Battery Voltage and Charge Time for Cycle Use



### Terminal Voltage (V) and Discharge Time



### Charging Procedures

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C (77°F)	2.45	2.40~2.50	0.1PA
Standby	25°C (77°F)	2.275	2.25~2.30	

### Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
Discharge Power(W)	0.1P>(W)	0.1P≤(W)<0.25P	0.25P≤(W)<1.0P	(W)≥1.0P

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