



HR 1251W

12V 51W

HR 1251W 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.



Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	51W @ 15min-rate to 1.67V per cell @25 °C (77°F) 13Ah@ 20hr-rate to 1.75V per cell @25°C(77°F)
Weight	Approx. 3.72 kg(8.2 lbs)
Maximum Discharge Current	150A/180A(5sec)
Internal Resistance	Approx. 13mΩ
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	5.1A
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.



MH14533(N)



ISO 9001
No.:041005117

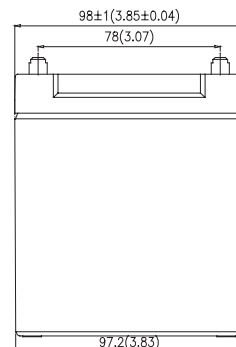
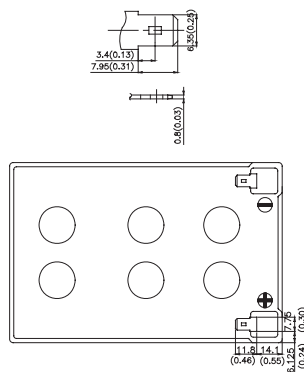
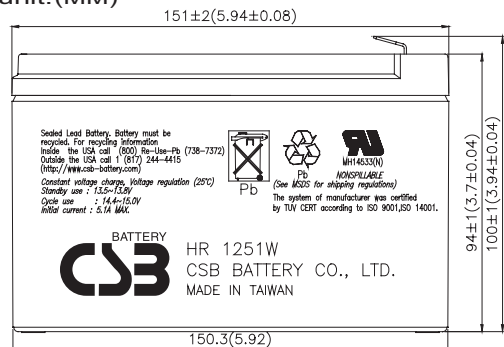


ISO 14001
NO. UM 1-12-0045

CSB-manufactured batteries are UL-recognized components under UL924 as well as ISO 9001 and ISO 14001 certified.

Dimensions

unit: (MM)



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	85.8	64.0	50.8	43.0	36.8	27.1	21.4	15.4	8.33	6.65
1.67V	82.4	61.6	49.2	41.8	35.8	26.7	20.9	15.3	8.29	6.61
1.70V	80.5	60.5	48.0	41.2	35.2	26.4	20.7	15.2	8.28	6.58
1.75V	77.2	57.9	46.4	39.9	34.3	25.7	20.3	15.1	8.24	6.52
1.80V	72.9	54.8	44.6	38.3	32.9	24.8	19.9	14.9	8.20	6.44
1.85V	68.6	51.6	42.7	36.5	31.6	23.9	19.6	14.7	8.16	6.36

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

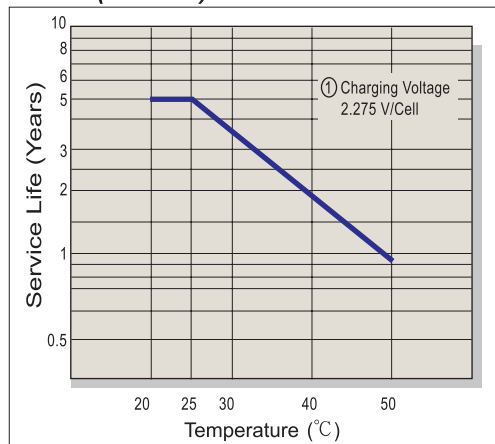
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	1,030	768	607	511	441	325	257	185	100	79.8
1.67V	990	742	585	500	430	320	251	184	99.6	79.4
1.70V	969	726	573	494	422	317	249	183	99.3	79.0
1.75V	927	695	552	479	408	310	244	181	98.9	78.3
1.80V	875	657	532	460	393	300	239	179	98.4	77.3
1.85V	824	619	513	441	379	290	235	177	97.9	76.4

● All mentioned values are average values.

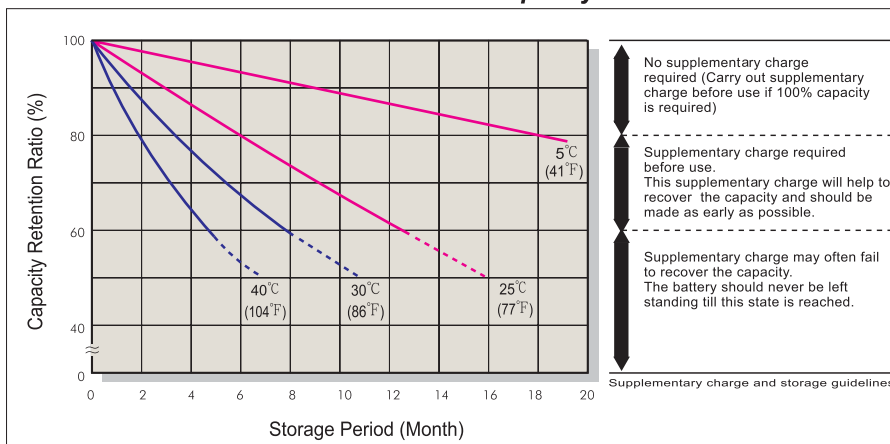
HR 1251WF2 12V 51W



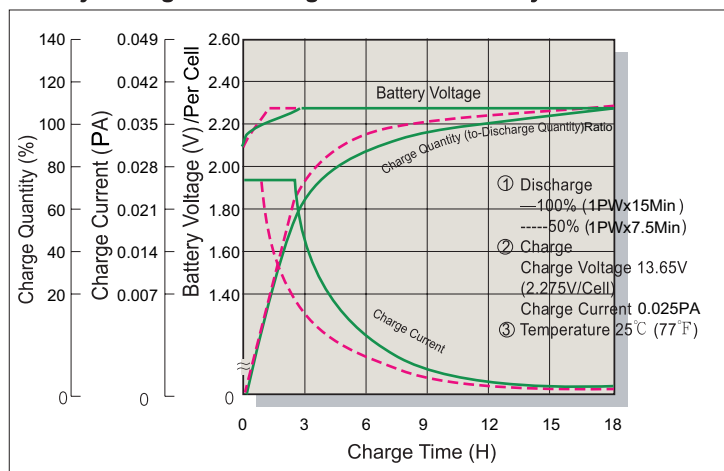
Trickle (or Float) Service Life



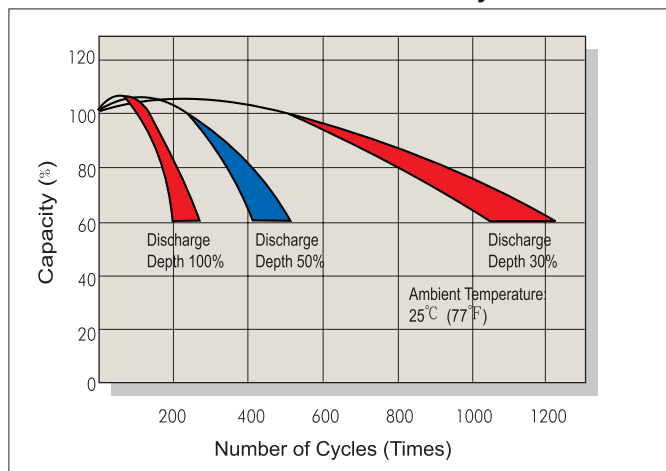
Capacity Retention Characteristic



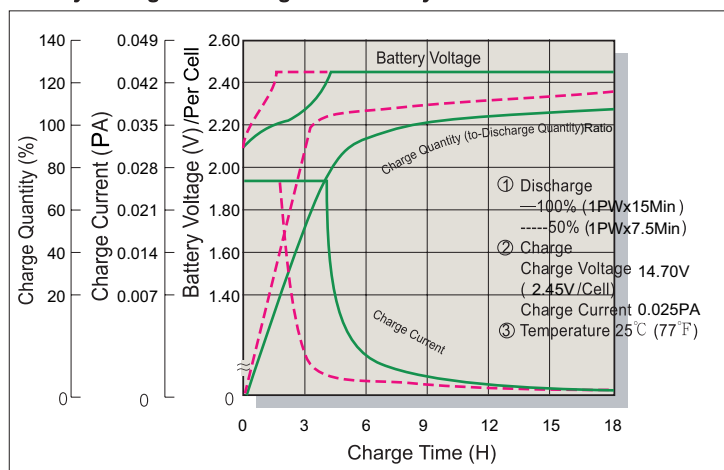
Battery Voltage and Charge Time for Standby Use



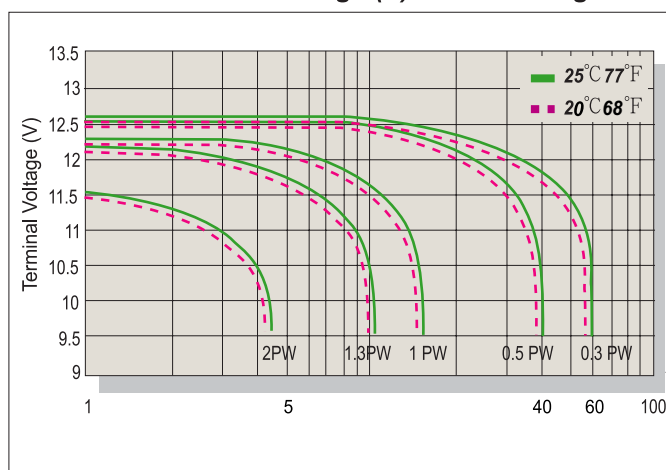
Cycle Service Life



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

Sales Office URL: WWW.CSB-BATTERY.COM

CSB BATTERY CO., LTD.
TAIWAN OFFICE
Tel: +886-2-2555-5600
Fax: +886-2-2555-3300
E-mail: service@csb-battery.com.tw

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
SHANGHAI OFFICE
Tel: +86-21-5046-1622, 5046-0833
Fax: +86-21-5064-3314

CSB BATTERY TECHNOLOGIES, INC
USA OFFICE
Tel: +1-817-244-7777/1-800-3 CSBUSA(272872)
Fax: +1-817-244-4445
E-mail: csb@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
BEIJING OFFICE
Tel: +86-10-6597-8060, 6597-8070
Fax: +86-10-6597-8050
E-mail: chinasls@csb-battery.com

CSB BATTERY OF NETHERLANDS B.V
NETHERLANDS OFFICE
Tel: +31(0) 180 418 140
Fax: +31(0) 180 418 327
E-mail: eurosales@csb-battery.com

CSB BATTERY LOGISTICS (SHANGHAI) CO., LTD.
SHENZHEN OFFICE
Tel: +86-755-2694-2788/2606/2706
Fax: +86-755-2694-2748
E-mail: shen@csb-battery.com.tw