

HR 1251W F2

12V 51W

HR 1251W F2 is specially designed for high efficient discharge application. Its characteristics are small volume, light weight and high discharge efficiency. It can be used for more than 260 cycles at 100% discharge in cycle service, or three to five years in standby service.



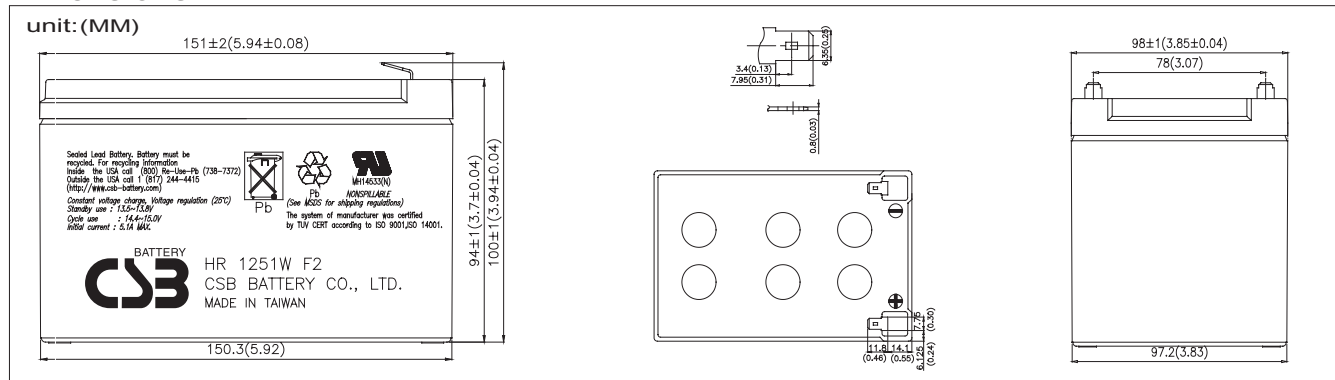
Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	51W @ 15minute-rate to 1.67V per cell @25 °C(77°F)
Weight	Approx. 4.20kg(9.26 lbs)
Maximum Discharge Current	180A(5sec)
Internal Resistance	Approx. 16mΩ
Operating Temperature Range	Discharge: -20°C~50°C(-4°F~122°F) Charge: 0°C~40°C(32°F~104°F) Storage: -20°C~40°C(-4°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	Faston Tab 187/250
Container Material	-ABS (UL94-HB)*Flammability resistance of UL94-V2 can be available upon request.



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

Dimensions



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

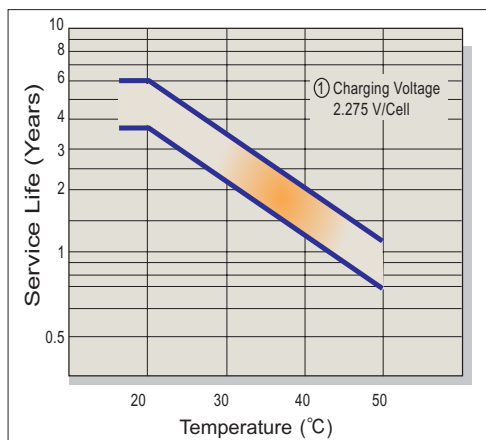
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	85.8	64.0	49.9	42.6	36.8	27.1	21.4	15.4	8.33	6.65
1.67V	82.8	62.0	48.2	41.8	36.0	26.8	20.8	15.4	8.30	6.62
1.70V	81.5	61.1	47.5	41.5	35.7	26.8	20.6	15.3	8.28	6.60
1.75V	77.2	57.9	45.9	39.9	33.9	25.8	20.3	15.1	8.24	6.52
1.80V	72.9	54.8	44.3	38.3	32.2	24.8	19.9	14.9	8.20	6.44
1.85V	68.6	51.6	42.7	36.7	30.4	23.9	19.6	14.7	8.16	6.36

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

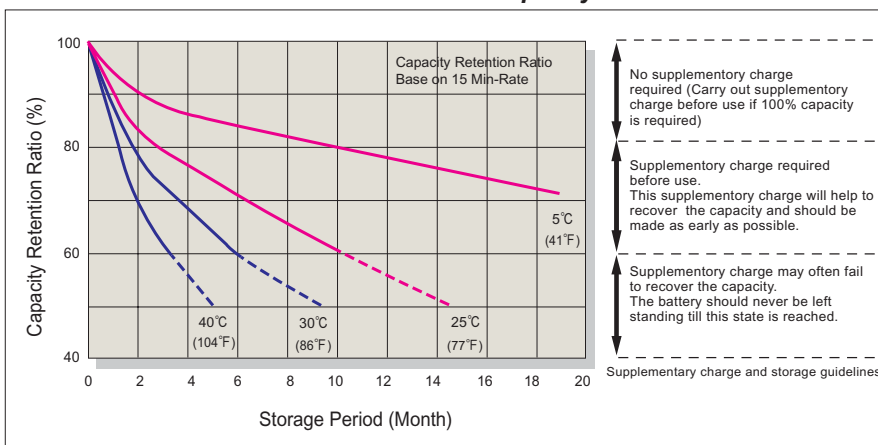
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	1030	768	599	511	441	325	257	185	100	79.8
1.67V	994	744	579	502	432	322	250	184	99.6	79.4
1.70V	978	733	570	498	428	321	247	184	99.4	79.2
1.75V	927	695	551	479	407	310	243	182	98.9	78.3
1.80V	875	657	532	460	386	298	239	179	98.4	77.3
1.85V	824	619	513	441	365	287	235	177	97.9	76.4

- All mentioned values are average values.
- Low rate discharge mode (over 90 mins.) is not recommended.

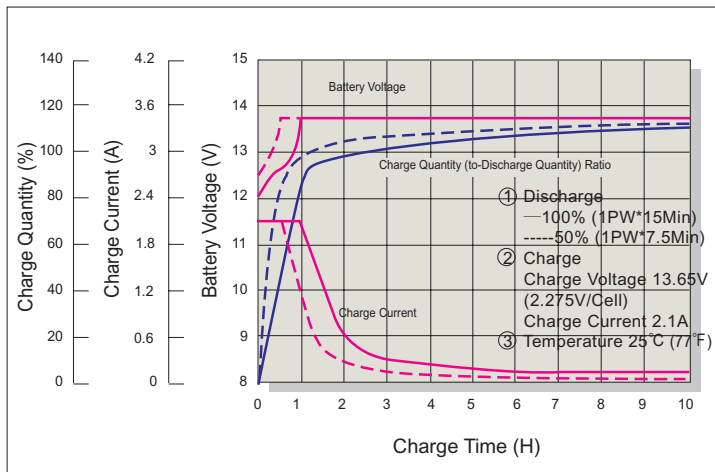
Trickle (or Float) Service Life



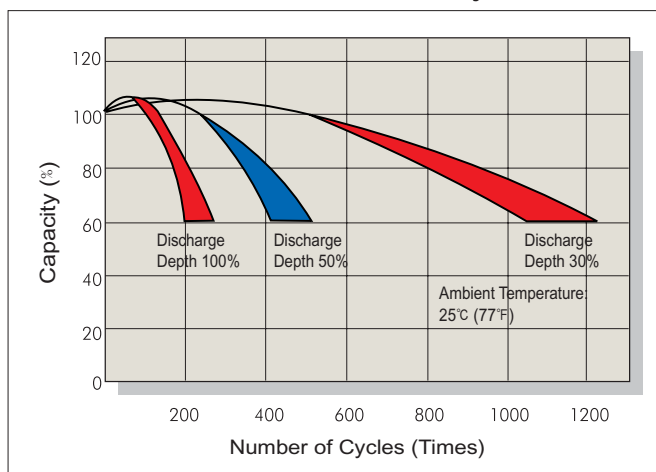
Capacity Retention Characteristic



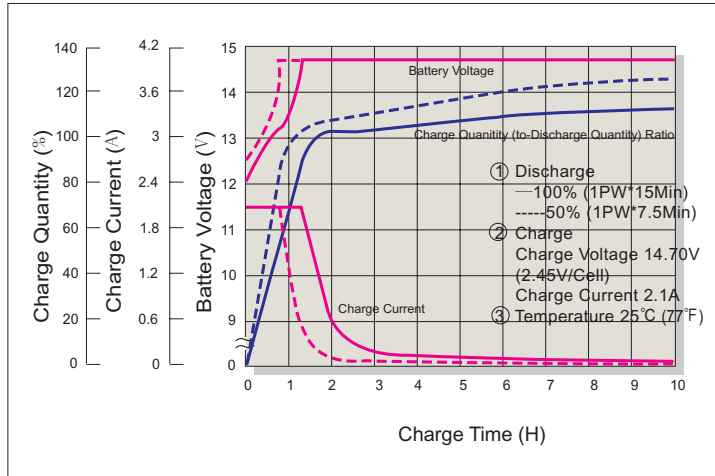
Battery Voltage and Charge Time for Standby Use



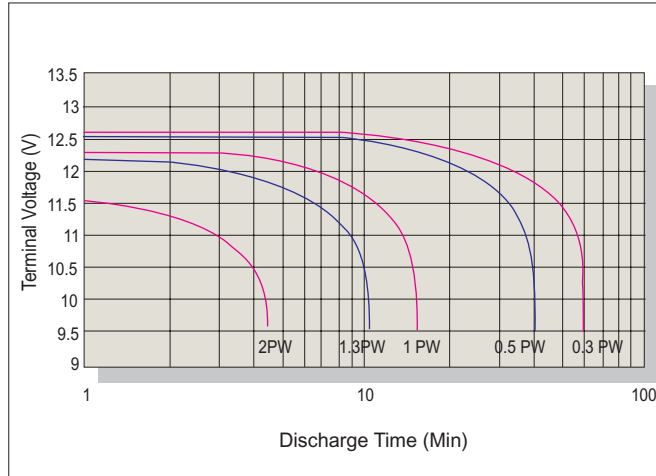
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time (25°C 77°F)



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	0.3C
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	1.55	1.30
Discharge Current (A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C