

## CSB HRL Series / HRL1223W



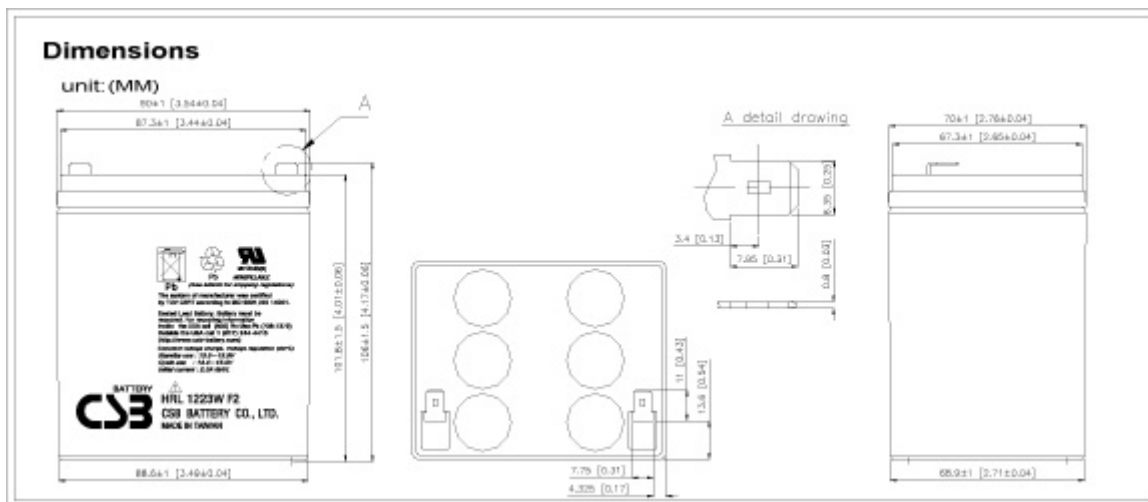
HRL1223  
12.00 V 23.00 Вт/эл Ah

HRL 1223W аккумуляторы с высокой энергоотдачей и длительным сроком службы. Обеспечивает 260 циклов при 100% разряде в циклическом режиме или 10 лет при работе в буферном режиме.

### Спецификации

Количество элементов в блоке	6
Напряжение блока, В	12.00
Емкость	23 Вт при 15 мин. разряде
Вес, кг	2.10
Максимальная высота (H), мм	106±1.5
Высота корпуса (h), мм	101.8±1.5
Длина (L), мм	90±1.0
Ширина (W), мм	70±1.0
Максимальный ток разряда, 5 сек. , А	130
Внутреннее сопротивление, мОм	19.00
Диапазон рабочих температур	Разряд: -15°C~50°C Заряд: -15°C~50°C Хранение: -15°C~40°C
Оптимальная температура эксплуатации	25 ± 3 °C
Диапазон напряжения подзаряда в буферном режиме	13.5 ~ 13.8 В/блок при 25°C
Рекомендуемый максимальный ток заряда, А	2.30
Ускоренный и циклический режимы	14.4 ~ 15.0 В/блок при 25°C
Саморазряд	Не рекомендуется хранить аккумуляторы без подзаряда более 6 месяцев при 25°C. При увеличении температуры время хранения уменьшается
Клеммы	F2-Faston Tab187/250
Материал корпуса	ABS(94-HB&94-V0)

Размеры:





# HRL 1223W

## 12V 23W

HRL 1223W is specially designed for high efficient discharge and long life 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, up to 8 years in standby service.



### Specification

<b>Cells per unit</b>	6
<b>Voltage per unit</b>	12
<b>Capacity</b>	23W @15 mun-rate to 1.67V per cell @25 °C (77°F)
<b>Weight</b>	Approx. 2.1 kg(4.63 lbs)
<b>Maximum Discharge Current</b>	130A(5sec)
<b>Internal Resistance Approx.</b>	Approx. 19mΩ
<b>Operating Temperature Range</b>	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)
<b>Nominal Operating Temperature Range</b>	25°C±3°C (77°F±5°F)
<b>Float Charging Voltage</b>	13.5 to 13.8 VDC/unit Average at 25°C (77°F)
<b>Recommended Maximum Charging Current Limit</b>	2.3A
<b>Equalization and Cycle Service</b>	14.4 to 15.0 VDC/unit Average at 25°C (77°F)
<b>Self Discharge</b>	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.
<b>Terminal</b>	F2-Faston Tab 250
<b>Container Material</b>	ABS(UL 94-HB/File E50263)*Flammability resistance of (UL 94-V0/File E88637) can be available upon request.

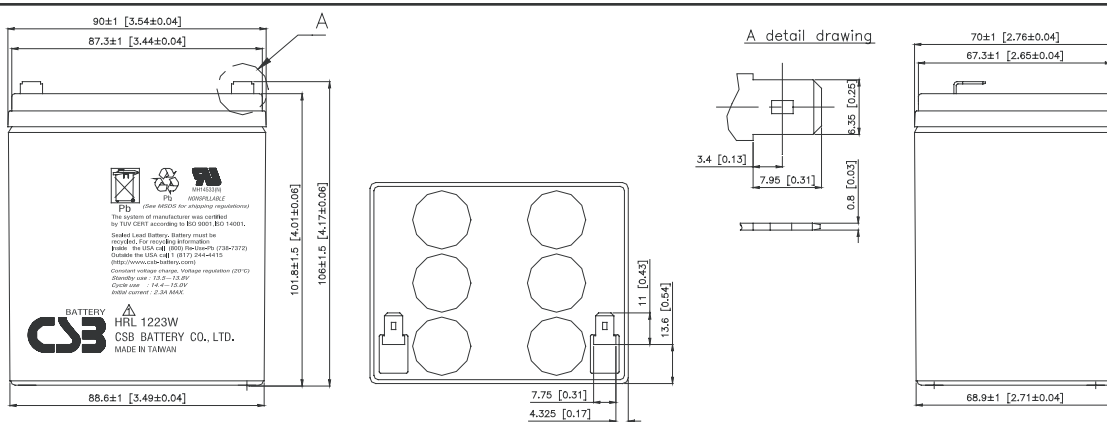
**UL**  
MH14533(N)

**tüv CERT**  
ISO 9001  
No. 041005117

**RWTV**  
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)

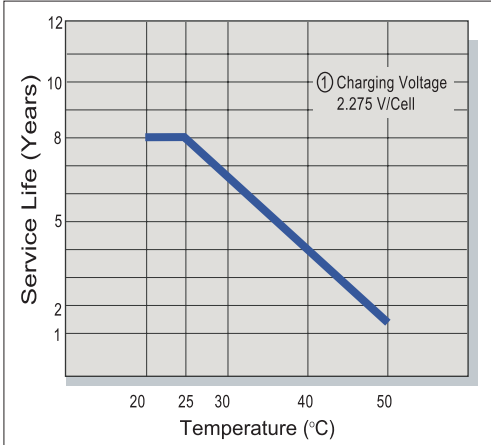
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	48.2	34.8	28.3	23.2	19.5	14.0	11.2	8.28	4.40	3.22
1.67V	44.9	32.7	27.0	22.1	18.7	13.6	11.0	8.05	4.26	3.10
1.70V	43.5	31.9	26.2	21.7	18.3	13.3	10.8	7.88	4.20	3.05
1.75V	41.3	30.4	25.2	20.9	17.6	12.9	10.7	7.87	4.18	2.95
1.80V	39.1	28.9	24.0	20.2	17.1	12.5	10.5	7.85	4.16	2.85
1.85V	36.9	27.4	22.9	19.4	16.4	12.1	10.3	7.84	4.14	2.75

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

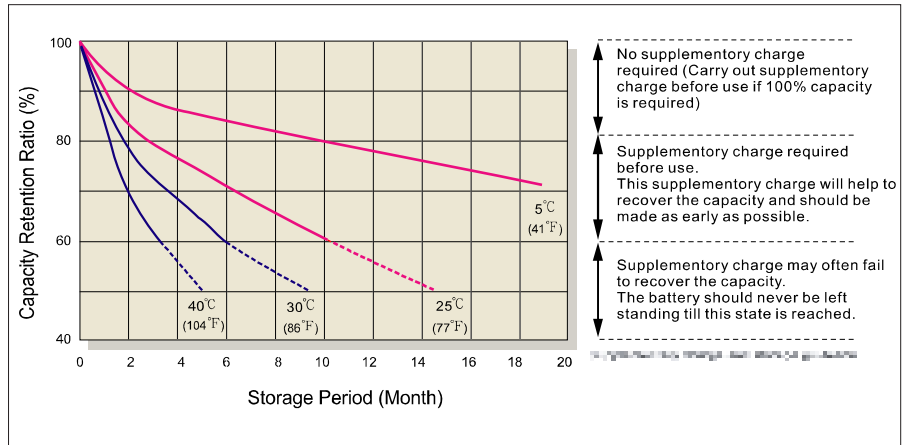
F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	540	390	317	260	218	161	132	99.1	51.9	38.0
1.67V	503	367	302	247	209	156	128	95.0	50.3	36.6
1.70V	489	357	294	242	205	152	126	93.0	49.6	36.0
1.75V	463	341	281	234	197	147	123	92.8	49.4	34.8
1.80V	438	324	271	227	192	143	121	92.4	49.1	33.6
1.85V	413	307	260	218	186	139	119	91.8	48.9	32.5

• All mentioned values are average values.

### Trickle (or Float) Service Life



### Capacity Retention Characteristic

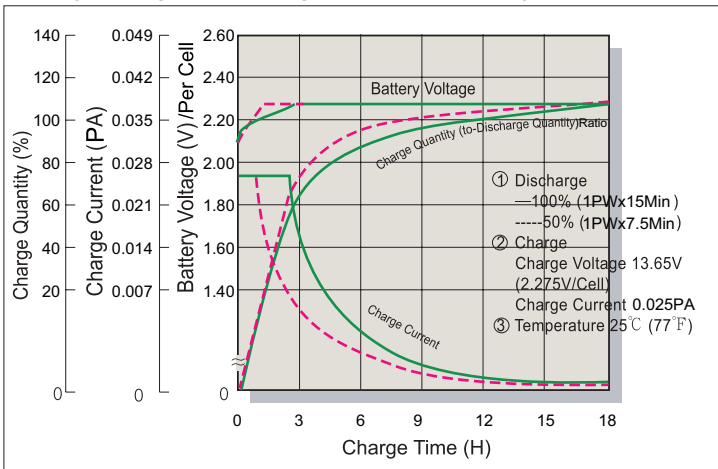


No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required)

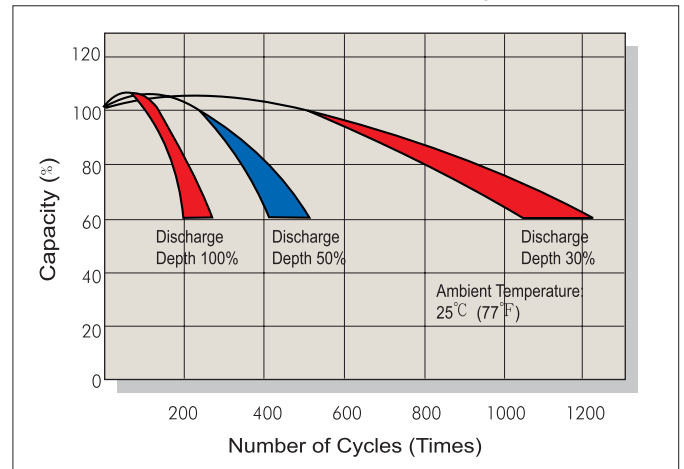
Supplementary charge required before use. This supplementary charge will help to recover the capacity and should be made as early as possible.

Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this state is reached.

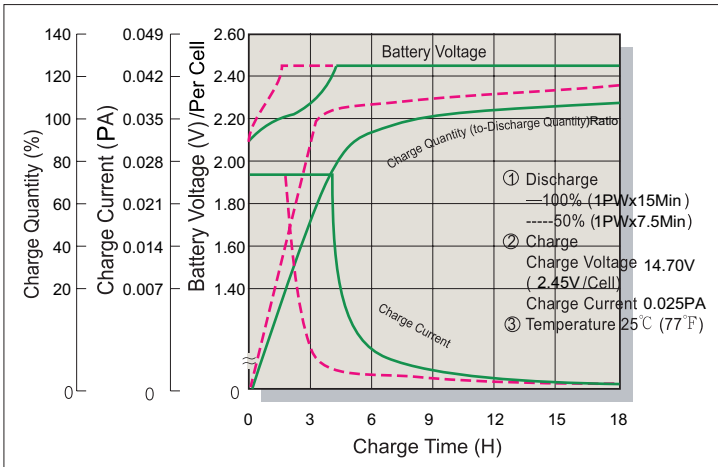
### Battery Voltage and Charge Time for Standby Use



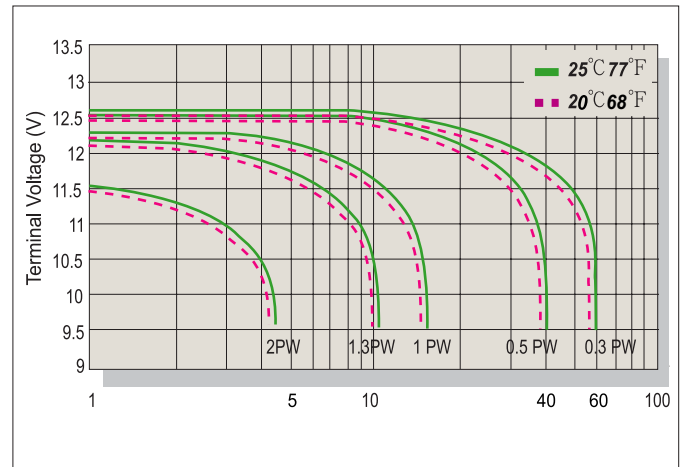
### Cycle Service Life



### 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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