



HRL 12150W FR

12V 150W FR

HRL 12150W FR 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, or five to eight years in standby service.



Specification

Cells per unit	6
Voltage per unit	12
Capacity	150W @15 minute-rate to 1.67V per cell @25°C (77°F)
Weight	Approx. 11.75kg (25.85lbs)
Maximum Discharge Current	300A (5sec)
Internal Resistance Approx.	Approx. 7.0 mΩ
Operating Temperature Range	Discharge: -15°C~50°C (5°F~122°F) Charge: -15~40°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	15A
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	Thread lead alloy recessed terminal to accept 1/4"×M6-20bolt
Container Material	-Polypropylene (UL94-HB)*Flammability resistance of UL94-V0 can be available upon request.



MH14533(N)



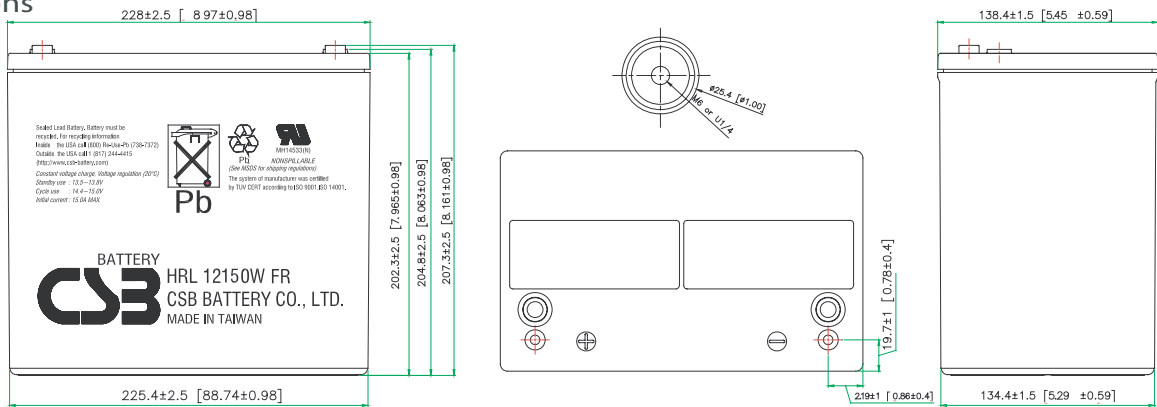
No :041005117



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:Amperes(25°C,77°F)

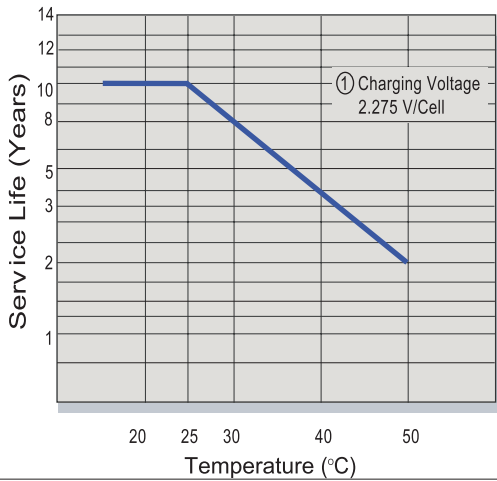
F.V/Time	5MIN	7.5MIN	10MIN	15MIN	20MIN	30MIN	40MIN	50MIN	60MIN	90MIN
11.1V	106.58	94.06	82.79	66.97	55.08	41.67	33.62	28.60	24.99	18.60
10.8V	120.53	105.19	92.62	75.07	61.08	45.75	36.62	30.76	26.77	19.48
10.5V	133.96	116.76	101.36	79.91	65.01	48.02	38.43	32.12	27.78	20.00
10.2V	149.07	125.05	107.89	83.42	67.45	49.51	39.32	32.94	28.35	20.44
10.02V	157.25	129.44	111.37	85.03	68.40	49.83	39.73	33.20	28.57	20.54
9.6V	168.88	138.29	116.01	86.67	69.55	50.39	40.03	33.45	28.90	20.78

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

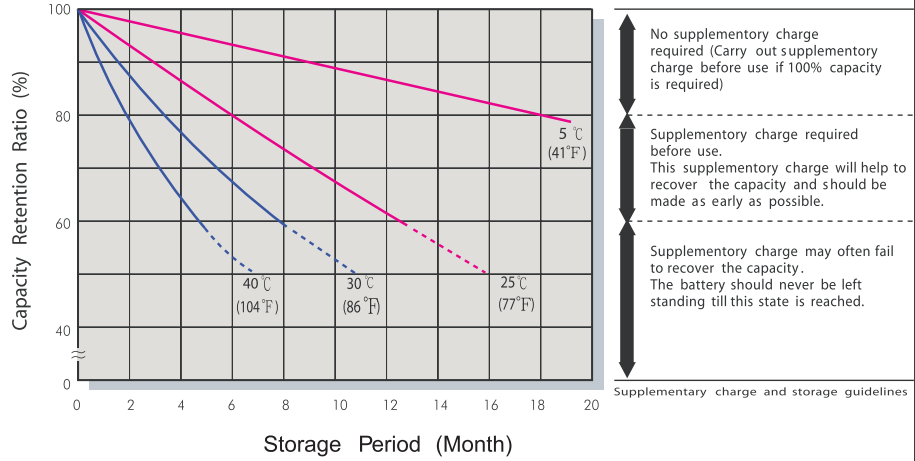
F.V/Time	5MIN	7.5MIN	10MIN	15MIN	20MIN	30MIN	40MIN	50MIN	60MIN	90MIN
11.1V	1188.20	1057.30	943.20	773.00	639.30	486.40	396.20	337.40	296.10	221.50
10.8V	1333.80	1172.20	1039.40	858.20	704.80	530.00	426.00	360.70	314.30	230.60
10.5V	1472.60	1290.00	1125.90	907.20	745.20	554.60	445.70	374.30	325.40	236.60
10.2V	1615.40	1363.00	1188.70	939.70	770.70	569.40	455.20	382.10	332.40	241.50
10.02V	1693.90	1403.70	1218.10	950.60	778.70	574.50	459.30	385.60	333.70	242.40
9.6V	1793.80	1479.10	1263.20	967.60	787.70	577.40	463.30	387.20	335.00	243.70

• All mentioned values are average values.

Trickle (or Float) Service Life

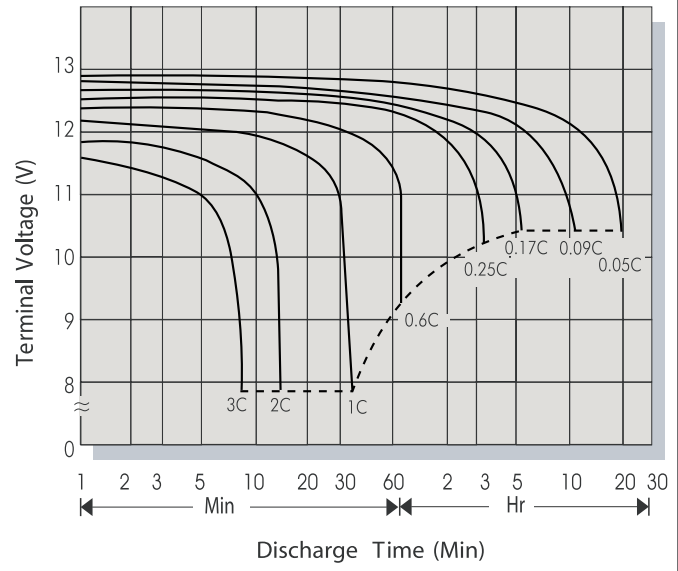
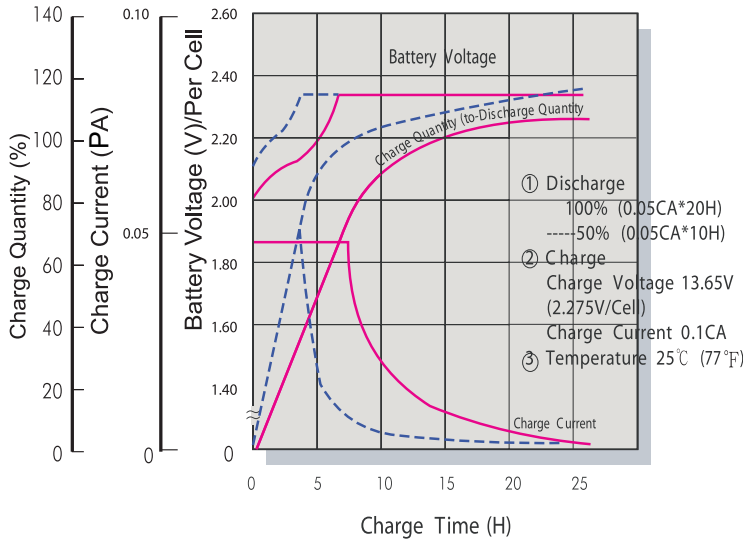


Capacity Retention Characteristic



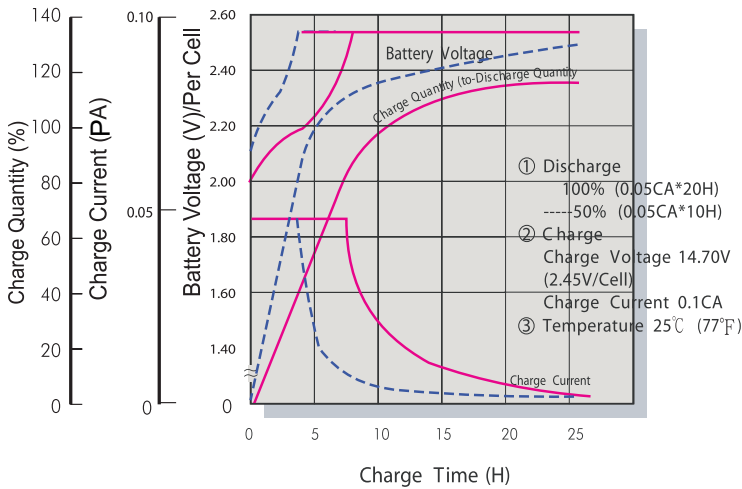
Battery Voltage and Charge Time for Standby Use

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



Battery Voltage and Charge Time for Cycle Use

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

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	

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