HR 1224W F2

12V 24W

HR 1224W F2 is specially designed for high efficient discharge application. Its characteristics are small volume, light weight and hight 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	24W @ 15minute-rate to 1.67V per cell @25℃(77℉)
Weight	Approx. 2.06kg(4.5 lbs)
Maximum Discharge Current	90A(5sec)
Internal Resistance	Approx. 21mΩ
Operating Temperature Range	Discharge: -20℃~50℃(-4℉~122℉) Charge: 0℃~40℃(32℉~104℉) Storage: -20℃~40℃(-4℉~104℉)
Nominal Operating Temperature Range	25℃±3℃(77℉±5℉)
Float Charging Voltage	13.5 to 13.8 VDC/unit Average at 25℃(77℉)
Recommended Maximum Charging Current Limit	2.4A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25℃(77℉)
Self Discharge	CSB Batteries can be stored for more than 6 months at 25℃(77℉). Please charge batteries before using. For higher temperatures the time interval will be shorter.
Terminal	Faston Tab 250
Container Material	-ABS (UL94-HB)*Flammability resistance of UL94-V0 can be available upon request.

MH14533(N)

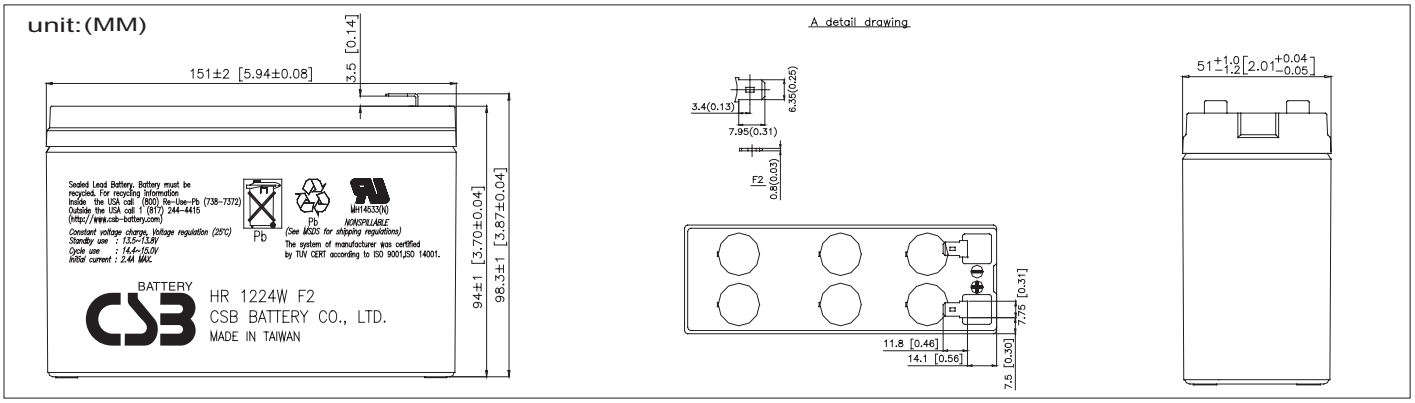
TÜV CERT ISO9001 No :041005117

RWTUV 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℃,77℉)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	47.50	33.00	25.75	22.00	18.92	14.00	11.00	7.95	4.29	3.43
1.67V	44.00	31.08	24.47	20.95	18.05	13.48	10.42	7.64	4.16	3.29
1.70V	42.50	30.25	23.92	20.50	17.67	13.25	10.17	7.51	4.10	3.23
1.75V	40.46	28.84	23.05	19.84	16.88	12.84	10.09	7.49	4.08	3.23
1.80V	38.42	27.42	22.17	19.17	16.08	12.42	10.00	7.46	4.06	3.23
1.85V	36.38	26.01	21.30	18.51	15.29	12.01	9.92	7.44	4.04	3.23

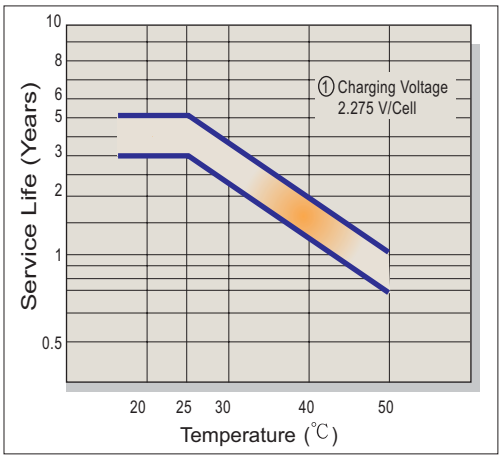
Constant Power Discharge Characteristics Unit:W (25℃,77℉)

F.V/Time	2MIN	4MIN	6MIN	8MIN	10MIN	15MIN	20MIN	30MIN	60MIN	90MIN
1.60V	570.00	396.00	309.00	264.00	227.00	168.00	132.00	95.40	51.50	41.20
1.67V	528.00	372.90	293.60	251.40	216.50	161.70	125.00	91.69	49.89	39.52
1.70V	510.00	363.00	287.00	246.00	212.00	159.00	122.00	90.10	49.20	38.80
1.75V	485.50	346.00	276.50	238.00	202.50	154.00	121.00	89.80	48.95	38.75
1.80V	461.00	329.00	266.00	230.00	193.00	149.00	120.00	89.50	48.70	38.70
1.85V	436.50	312.00	255.50	222.00	183.50	144.00	119.00	89.20	48.45	38.65

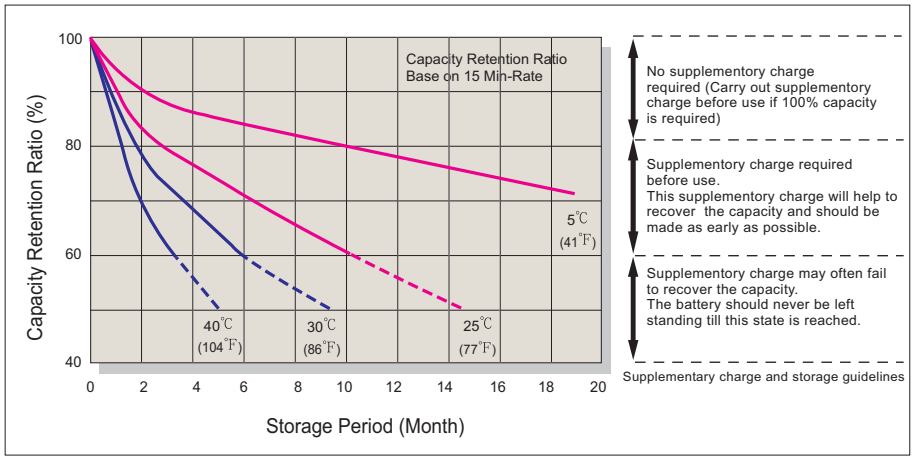
- All mentioned values are average values.

HR 1224WF2 12V 24W

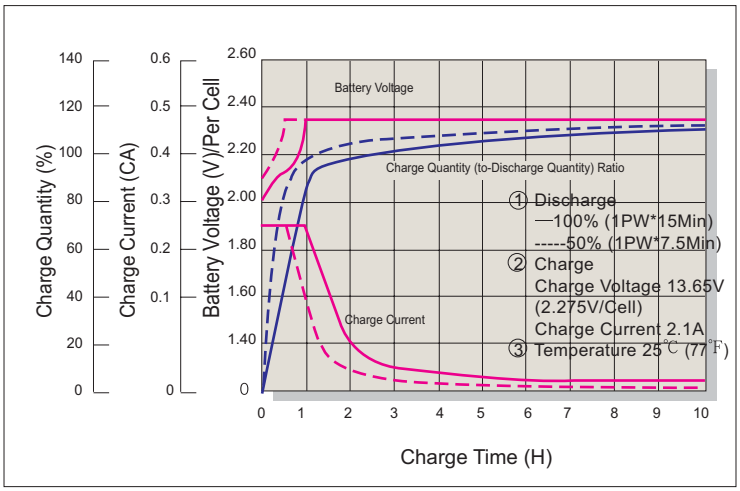
Trickle (or Float) Service Life



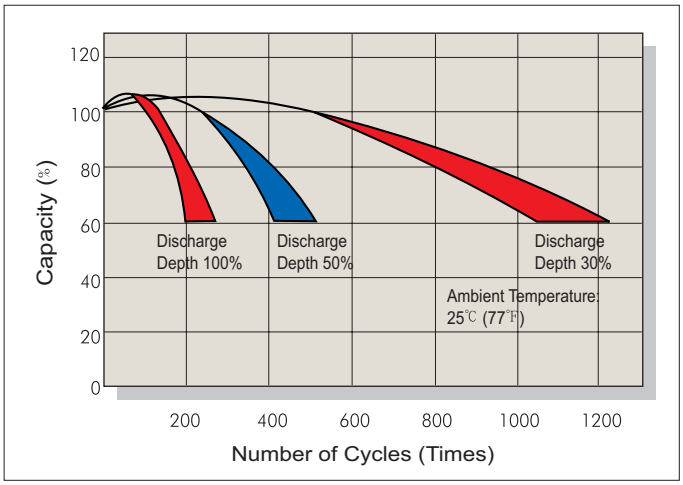
Capacity Retention Characteristic



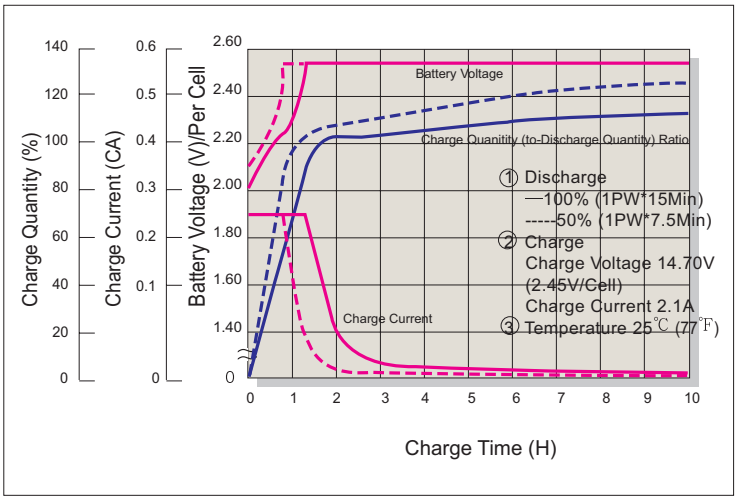
Battery Voltage and Charge Time for Standby Use



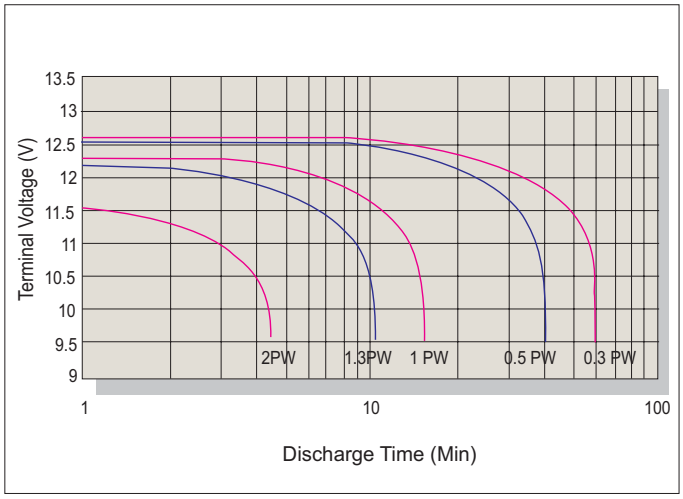
Cycle Service Life



Battery Voltage and Charge Time for Cycle Use



Terminal Voltage (V) and Discharge Time (25℃77℉)



Charging Procedures

Application	Charge Voltage (V/Cell)			Max. Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25℃ (77℉)	2.45	2.40~2.50	0.3C
Standby	25℃ (77℉)	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