

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	180Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 52.0 Kg (Tolerance ±3.0%)
Internal Resistance	Approx. 4.0 mΩ
Terminal	F5(M8)/F12(M8)
Max. Discharge Current	1800A (5 sec)
Cold Cranking Ampere(CCA)	780A
Maxi. Charging Current	54.0A
Reference Capacity	C3 138.0AH
	C5 157.0AH
	C10 180.0AH
	C20 190.8AH
Float Charging Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
Operating Temperature Range	Discharge: -20°C~60°C
	Charge: 0°C~50°C
	Storage: -20°C~60°C
Normal Operating Temperature Range	25°C ±5°C
Self Discharge	Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charged batteries before using.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

EV (Electric Vehicle) series is specially designed for frequent discharge deep cycle application. By using the specially designed active material, strong grids and thick plate construction, the EV series battery offers reliable performance in high load situations and could provide competitive cycle performance. It is suitable for Electric Vehicle and Golf cart, Floor Machines, Forklifts, Aerial lifts, Robotics, Marine, RV, Mobility and Medical Equipment, and most outdoor application.



ISO 9001



ISO 14001



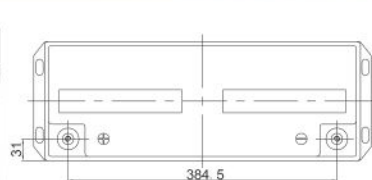
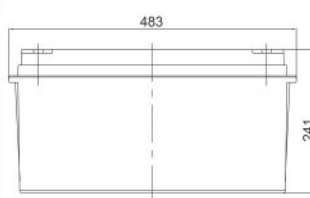
OHSAS 18001



MH 28539



Dimensions



F12 Terminal

Length	483±2mm (19.0 inches)
Width	170±2mm (6.69 inches)
Height	241±2mm (9.49 inches)
Total Height	241±2mm (9.49 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

Constant Current Discharge Characteristics : A(25°C)

F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	378.3	307.0	191.1	106.6	64.9	50.3	39.9	34.0	22.8	19.0	9.93
1.65V	357.5	293.5	183.4	103.0	62.9	48.8	38.9	33.1	22.6	18.8	9.78
1.70V	329.1	274.9	175.3	99.6	60.8	47.4	37.8	32.2	22.2	18.5	9.66
1.75V	301.2	255.8	167.6	96.0	58.7	46.0	36.8	31.4	21.9	18.2	9.54
1.80V	272.7	236.2	160.2	92.3	56.6	44.6	35.8	30.6	21.6	18.0	9.44
1.85V	222.9	196.0	138.0	82.8	51.8	41.2	33.3	28.6	20.2	16.9	8.97

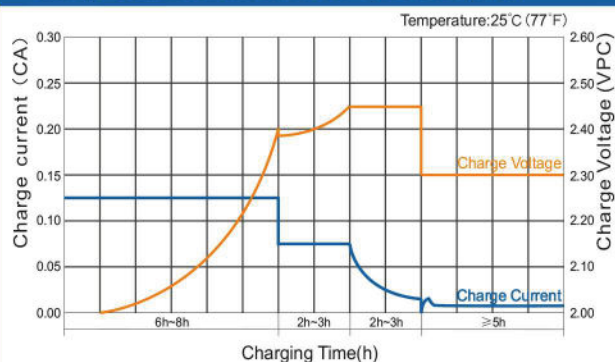
Constant Power Discharge Characteristics : WPC(25°C)

F.V/Time	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	643.0	536.6	347.1	200.4	123.1	96.1	76.7	65.5	44.6	37.3	19.6
1.65V	619.4	520.6	336.7	194.6	119.7	93.5	74.9	64.1	44.2	36.9	19.3
1.70V	580.7	494.9	325.1	189.5	116.4	91.4	73.1	62.6	43.6	36.4	19.1
1.75V	541.1	467.3	313.9	183.7	112.9	89.0	71.5	61.2	43.1	36.0	18.9
1.80V	498.4	437.6	303.0	177.7	109.4	86.6	69.7	59.9	42.5	35.6	18.7
1.85V	414.5	368.2	263.6	160.3	100.8	80.4	65.0	56.0	40.0	33.5	17.8

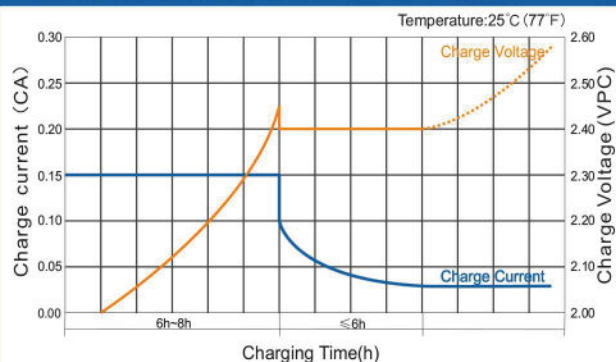
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

The battery must be fully charged before the capacity test. The C₁₀ should reach 95% after the first cycle and 100% after the third cycle.

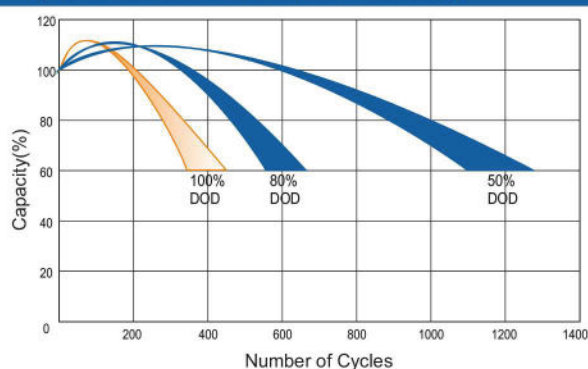
Charge Characteristic Curve for Cycle Use(IUUU)



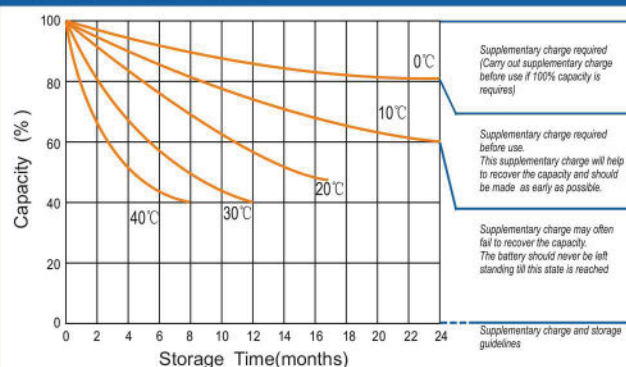
Charge Characteristic Curve For Cycle Use(IUI)



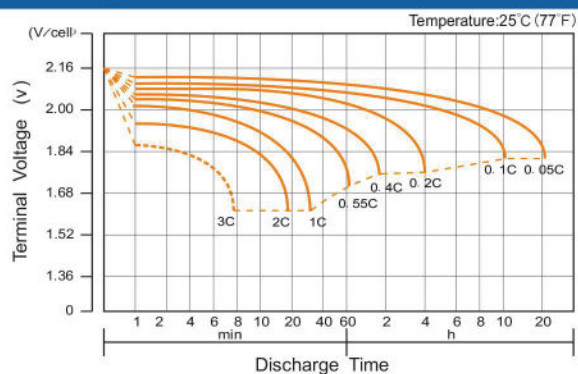
Cycle Life in Relation to Depth of Discharge



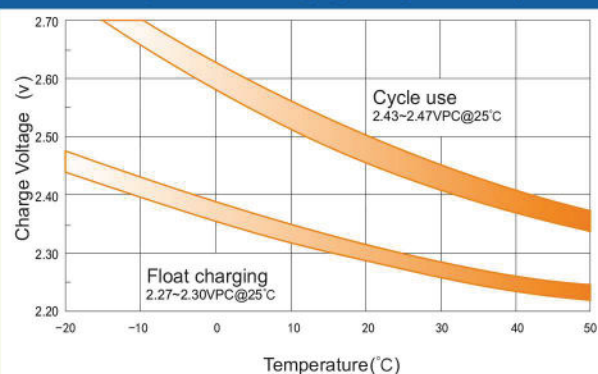
Storage Characteristics



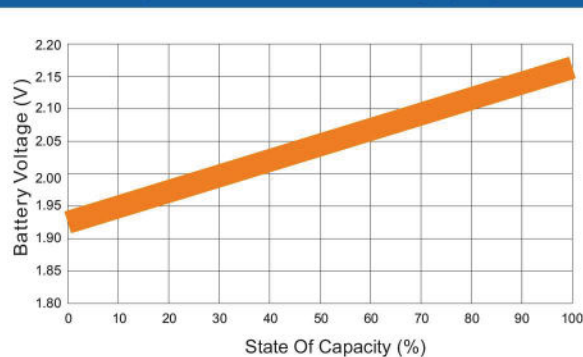
Discharge Characteristics Curve



Relationship Between Charging Voltage and Temperature



Relationship of OCV And State of Charge(20°C)



Temperature Effects on Capacity

