

Specification



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

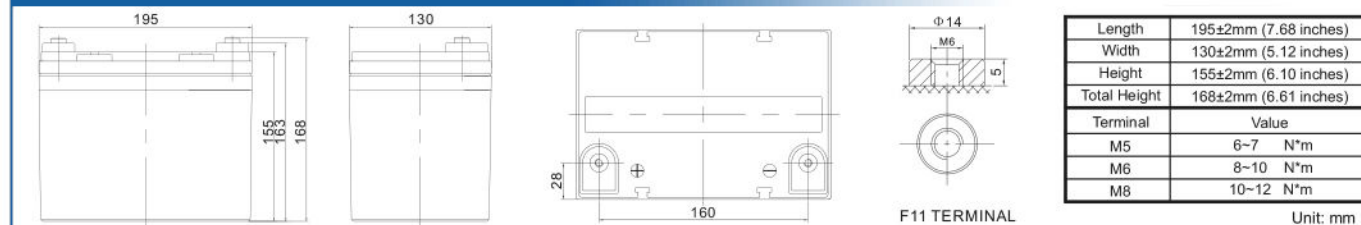


MH 28539



Cells Per Unit	6
Voltage Per Unit	12
Capacity	33Ah@10hr-rate to 1.80V per cell @25°C
Weight	Approx. 9.6 Kg (Tolerance ± 3.0%)
Internal Resistance	Approx. 12.0 mΩ
Terminal	F7(M8)/F11(M6)
Max. Discharge Current	330A (5 sec)
Cold Cranking Ampere(CCA)	230A
Maxi. Charging Current	9.9A
Reference Capacity	C3 25.6AH
	C5 28.8AH
	C10 33.0AH
	C20 35.0AH
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.

Dimensions



Constant Current Discharge Characteristics : A(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	111.0	83.76	63.02	36.86	20.36	12.02	9.32	7.32	6.23	4.19	3.48	1.82
1.65V	107.0	79.15	60.25	35.39	19.67	11.64	9.03	7.12	6.07	4.14	3.44	1.79
1.70V	101.8	72.87	56.43	33.82	19.03	11.26	8.78	6.93	5.91	4.08	3.39	1.77
1.75V	95.1	66.70	52.51	32.33	18.33	10.86	8.52	6.75	5.76	4.02	3.34	1.75
1.80V	86.62	60.38	48.49	30.90	17.63	10.48	8.26	6.56	5.62	3.95	3.30	1.73
1.85V	76.23	49.35	40.24	26.61	15.81	9.60	7.63	6.10	5.24	3.71	3.11	1.64

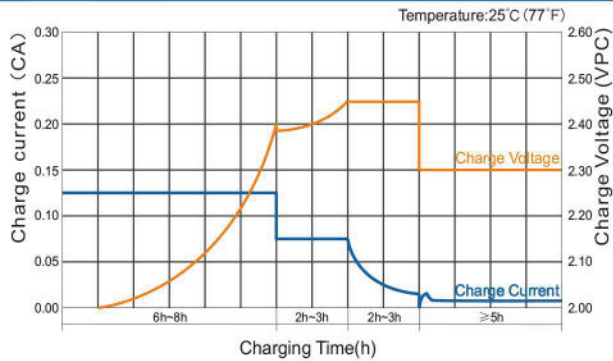
Constant Power Discharge Characteristics : WPC(25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	191.1	142.4	110.2	67.0	38.3	22.8	17.8	14.1	12.0	8.18	6.84	3.59
1.65V	189.0	137.1	106.9	64.9	37.2	22.2	17.3	13.7	11.7	8.10	6.77	3.53
1.70V	181.8	128.6	101.6	62.7	36.2	21.6	16.9	13.4	11.5	8.00	6.68	3.50
1.75V	172.9	119.8	95.9	60.5	35.1	20.9	16.5	13.1	11.2	7.90	6.60	3.46
1.80V	160.3	110.3	89.8	58.5	33.9	20.3	16.0	12.8	11.0	7.79	6.52	3.43
1.85V	143.6	91.8	75.6	50.8	30.6	18.7	14.9	11.9	10.3	7.33	6.15	3.26

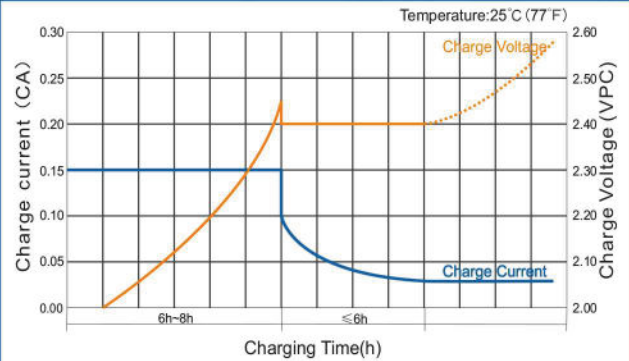
(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values.

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.

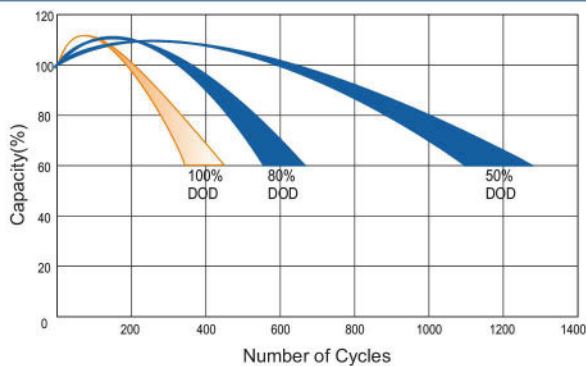
Charge Characteristic Curve for Cycle Use(IUUU)



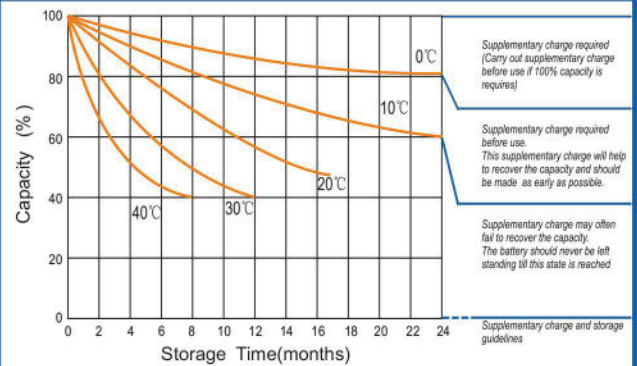
Charge Characteristic Curve For Cycle Use(IUI)



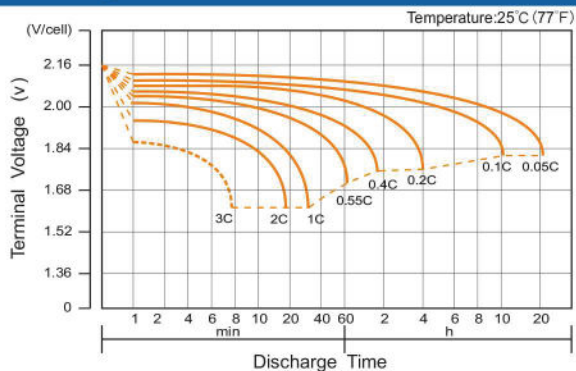
Cycle Life in Relation to Depth of Discharge



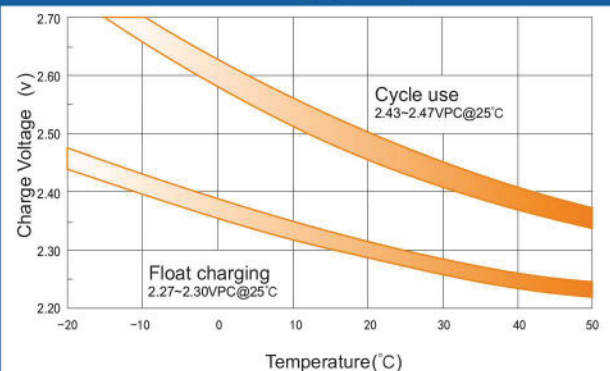
Storage Characteristics



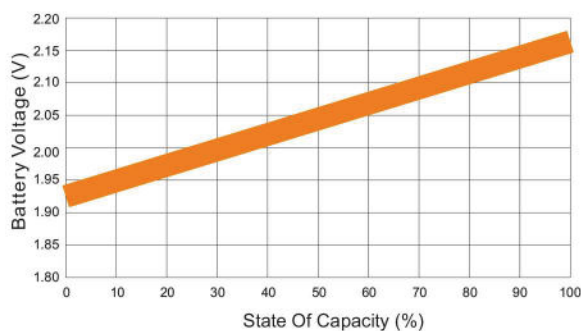
Discharge Characteristics Curve



Relationship Between Charging Voltage and Temperature



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



Temperature Effects on Capacity

