

General features for MPE Series (Deep-cycle) battery

- * Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- * Computer designed lead, calcium tin alloy grid for high power density.
- * UL-recognized component.
- * Long service life, float or cyclic applications.
- * Maintenance-free operation.
- * Low self discharge.
- * Case and cover are available in both standard and flame retardant ABS (Standard :UL94V0).



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MPE12-33 (12V33Ah)

Specifications

Nominal Voltage		12V	
Rated capacity (10 hour rate)		33 Ah	
Dimensions (±2mm)	Total Height	T65	180 mm (7.09 inches)
		T16	168 mm (6.61 inches)
	Height	155 mm (6.10 inches)	
	Length	196 mm (7.70 inches)	
	Width	131mm (5.16 inches)	
Weight Approx (±3%)		10 Kg (22.05 lbs)	

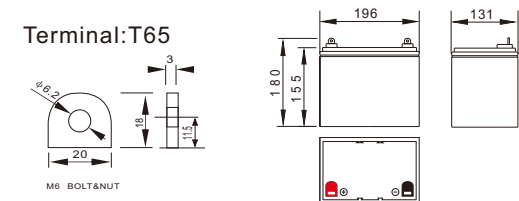
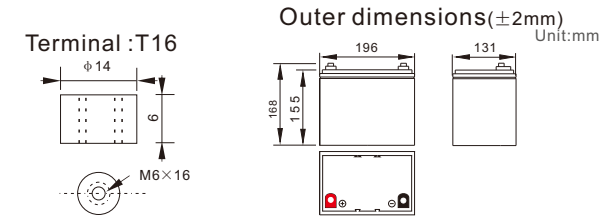
Battery picture and construction



Battery Construction

Component	Positive plate	Negative plate	Container	Cover
Raw material	Lead dioxide	Lead	ABS	ABS
Component	Electrolyte	Separator	Safety valve	Terminal
Raw material	Dilute sulfuric acid	Fiberglass	Rubber	Copper

Outer dimension and terminal



Characteristics

Capacity 25°C(77°F)	10 hour rate(3.3 A, 10.8V) 5 hour rate(5.3A, 10.5V) 1 hour rate(19.8 A, 9.6V)	33Ah 26.5Ah 19.8Ah
Internal Resistance	Full charged battery at 25°C(77°F)	Approx 9.2mΩ
Capacity affected by Temperature (10hour rate)	40°C (104°F)	102%
	25°C (77°F)	100%
Remaining capacity Self-Discharge At 25°C(77°F)	0°C (32°F)	85%
	-15°C (5°F)	65%
	Capacity after 3 month storage	91%
Terminal type	Capacity after 6 month storage	82%
	Capacity after 12 month storage	64%
Max. Discharge current 25°C/(77°F)	T16 (Option T65) 330A (5Seconds)	
Nominal operating temperature	25°C ±5°C(77°F ±9°F)	
Operating Temperature Range	Discharge	-15°C ~50°C (5°F ~122°F)
	Charge	-10°C ~50°C (14°F ~122°F)
	Storage	-20°C ~50°C (-4°F ~122°F)
Charge methods (constant Voltage) At 25°C(77°F)	Cycle use	Initial Charging Current less than 10A Voltage 14.5-15.0V Temperature compensation:-30mV/°C
	Standby use	Voltage 13.5-13.8V Temperature compensation:-18mV/°C

Constant current discharge (25°C , 77 °F)

Constant power discharge (25°C , 77 °F)

Unit:A

Unit:watts

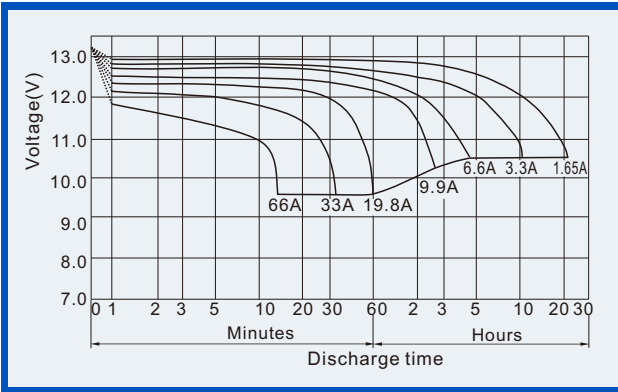
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

Time		5min	10min	15min	30min	1h	2h	3h	4h	5h	8h	10h	20h
		9.60V	A	122	89	63	38	19.8	12	8.5	6.6	5.4	3.8
	W	1297	946	666	403	229	134	98	76	63	44	40	21.7
10.20V	A	108	81	56	36.0	18.6	11.0	8.3	6.4	5.3	3.8	3.40	1.82
	W	1194	901	623	399	216	128	96	75	62	43	39	21.1
10.50V	A	104	77	53	35	18	10.8	8.1	6.3	5.3	3.7	3.30	1.80
	W	1175	876	599	397	209	125	93	73	61	43	39	20.9
10.80V	A	100	73	50	34	17	10.5	7.9	6.2	5.1	3.6	3.30	1.78
	W	1160	853	576	396	203	122	91	72	60	42	38	20.7
11.10V	A	96	69	46	33	17	10.2	7.6	6.0	5.0	3.5	3.14	1.69
	W	1139	825	550	393	200	122	90	71	60	42	37	20.1

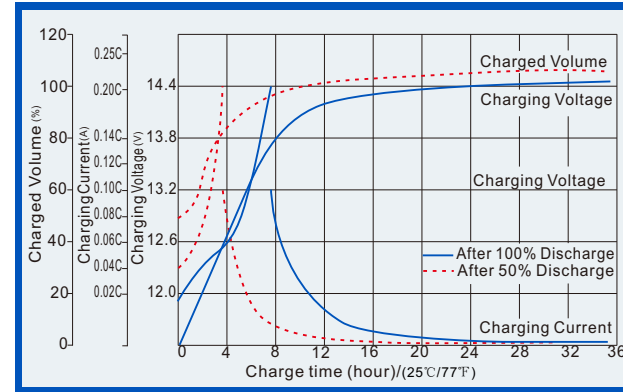
(Above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.)

Deep Cycle Battery (VRLA Battery, AGM technology) Maintenance-free Sealed Lead Acid Rechargeable Battery

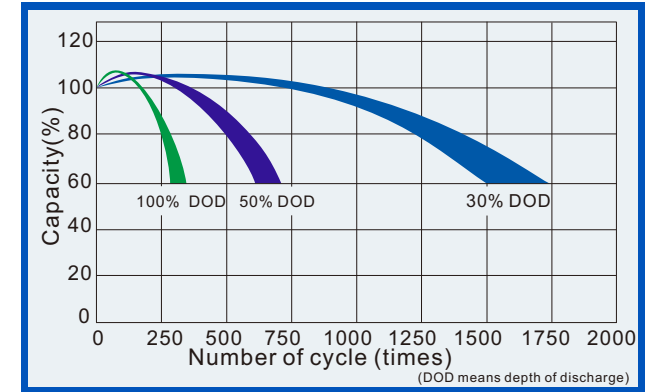
Discharge characteristics (25°C, 77°F)



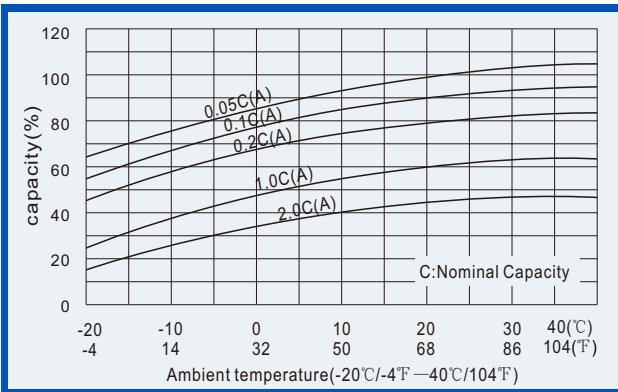
Charge characteristics (25°C, 77°F)



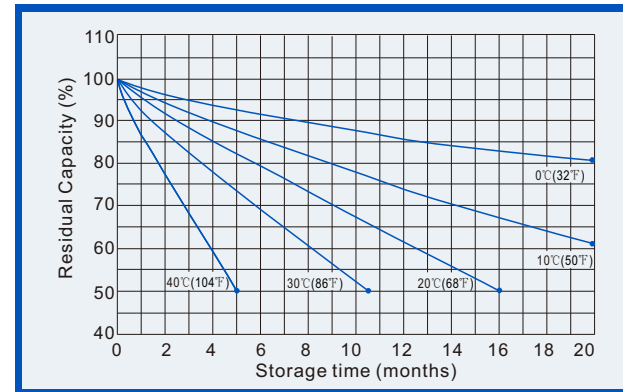
Life characteristics of Cyclic Use (25°C, 77°F)



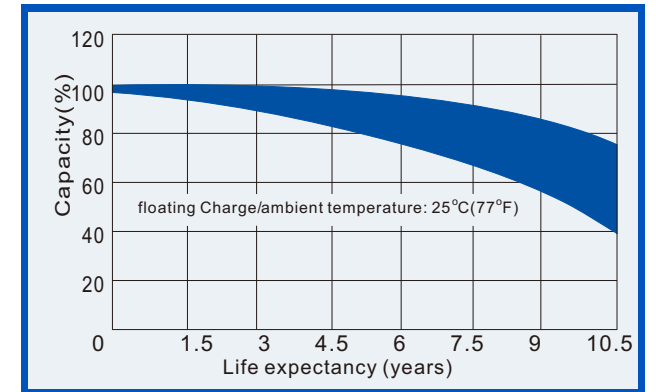
Effect of Temperature on capacity



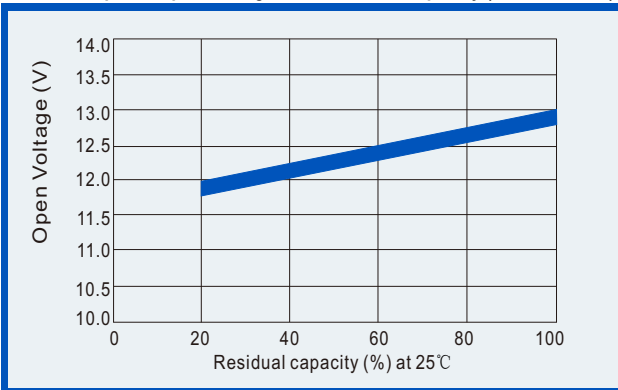
Self-discharge characteristics



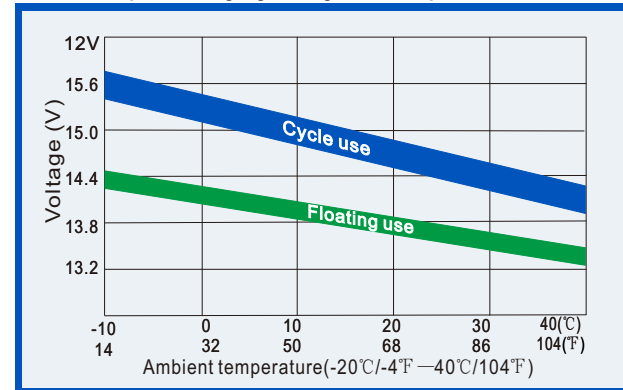
Life Characteristics of standby use (25°C, 77°F)



Relationships for open voltage and remained capacity (for reference)



Relationship for charging voltage and temperature



Temperature effects on floating life

