

# ML12-50<sub>(12V50AH)</sub>

## Features

- Maintenance-free operation
- Compact design

- Stable quality and high reliability
- 10 years design time (at 25°C)



## Application

- Telecommunication system
- Alarm and security system
- Backup power for testing and measuring instruments
- UPS
- Emergency lighting
- Fire alarm and security systems
- Auto control system
- Electronic apparatus and equipment
- Communication power supply
- DC power supply

## Specifications

Nominal Voltage	12V (6 cells)	Operating Temp.Range	Discharge: -15 - 50°C (5 - 122°F)
Nominal Capacity	53.2AH (20hr, 1.80V/cell, 25 °C/76°F)		Charge : 0 - 40°C (32 - 104°F)
	50AH (10hr, 1.80V/cell, 25 °C/77°F)	Nominal Operating Temp.Range	Storage : -15 - 40°C (5 - 104°F)
42.5AH (5hr, 1.75V/cell, 25°C/77°F)	Cycle Use		25 ± 3°C ( 77± 5°F )
Dimension	30AH (1hr, 1.60V/cell, 25 °C/77°F)	Standby Use	14.2-14.4V (25°C/77°F) Temp.Coefficient -30mV/°C
	Length 228± 2mm		Initial Charging Current Less than 16.5A
	Width 137± 2mm	Capacity affected by Temperature	13.5-13.8V (25°C/77°F) Temp.Coefficient -20mV/°C
	Container Height 210± 2mm		No limit on Initial Charging Current
Total Height(with Terminal) 216± 2mm	Self Discharge	40°C (104°F) 103%	
Approx Weight Approx 16.2Kg		25°C (77°F) 100%	
Terminal T3 or F5		0°C (32°F) 86%	
Container Material ABS		SunstoneML series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.	
Max. Discharge Current 550A (5S)			
Internal Resistance Approx 8.0mΩ			

### Constant Current Discharge (Amperes at 25°C/77°F)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	123.7	89.1	72.6	45.3	34.8	28.36	16.57	12.44	8.56	5.02	2.64
1.75V/cell	135.1	97.8	78.8	47.2	36.1	29.25	17.04	12.75	8.76	5.12	2.68
1.70V/cell	146.1	104.5	85.1	48.8	37.3	30.10	17.51	13.03	8.91	5.18	2.71
1.65V/cell	157.5	111.4	89.9	51.4	38.9	31.29	18.01	13.41	9.09	5.23	2.75
1.60V/cell	168.4	119.1	94.0	53.7	40.3	32.34	18.51	13.63	9.26	5.29	2.77

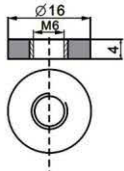
### Constant Power Discharge (Watts per cell at 25°C/77°F)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	231.4	163.2	137.8	85.1	66.2	55.22	31.89	24.13	16.91	9.98	5.21
1.75V/cell	245.9	174.9	144.7	88.5	68.9	56.47	32.75	24.64	17.17	10.11	5.29
1.70V/cell	260.1	184.1	152.2	91.5	71.1	57.26	33.53	25.12	17.36	10.18	5.34
1.65V/cell	280.4	192.6	157.9	96.5	73.2	59.14	34.24	25.59	17.73	10.25	5.39
1.60V/cell	296.4	200.5	164.7	99.5	75.1	60.99	34.92	26.07	17.98	10.33	5.44

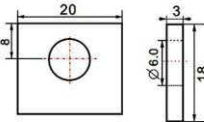
Note: The above characteristics data are average values obtained within three charge/discharge cycles, not the minimum values.

## Dimensions unitimm[inches]

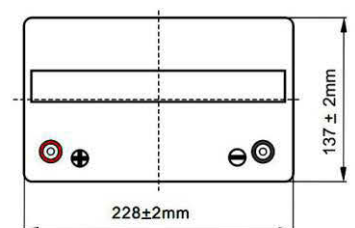
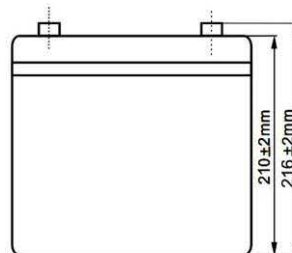
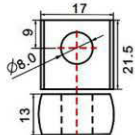
### T3 Terminal



### F4 Terminal

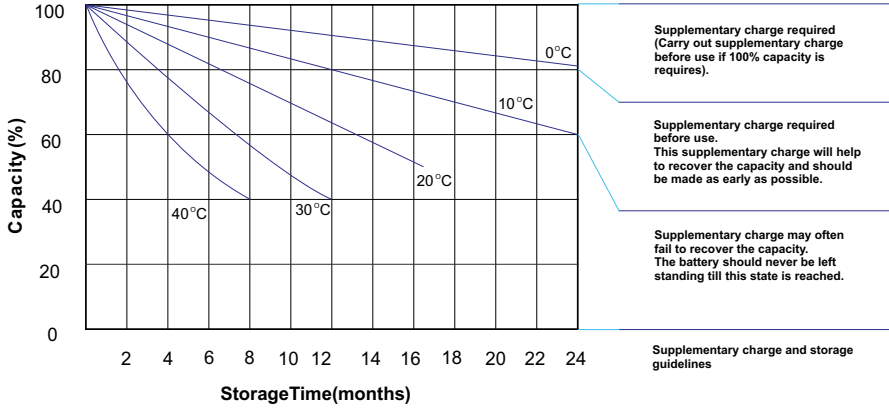


### F6 Terminal

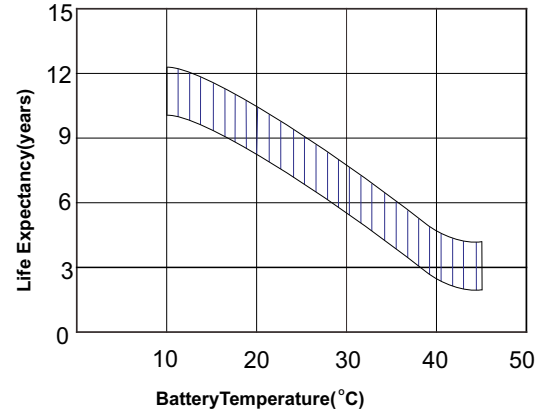


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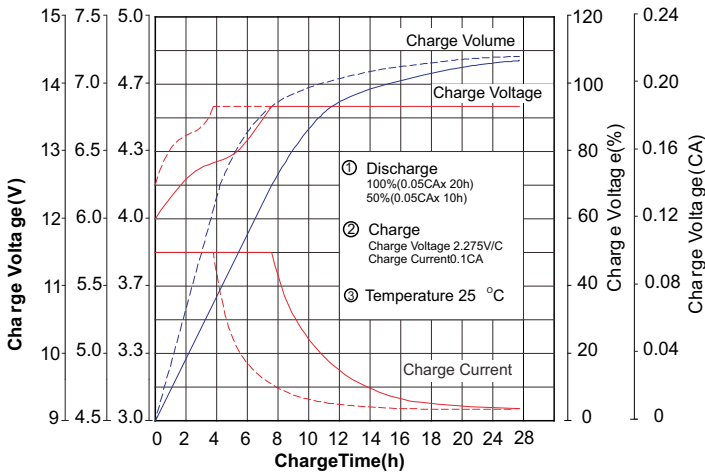
## Storage characteristics



## Effect of temperature on long term float life

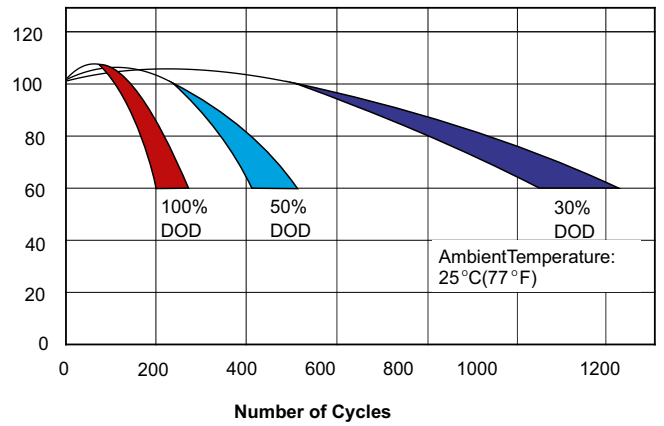


## Charge characteristics Curve for standby use

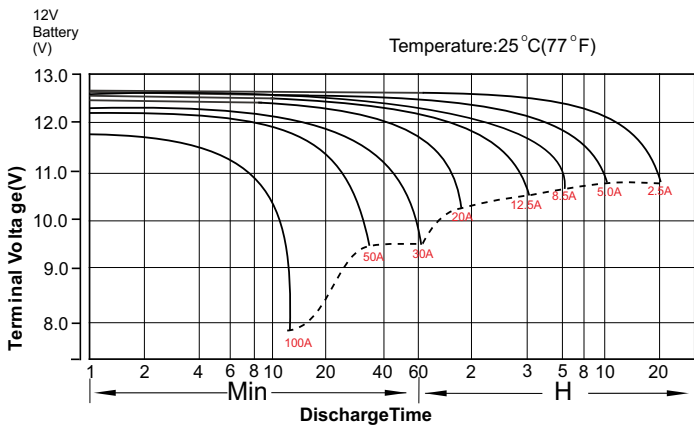


## Cycle Life in Relation to Depth of Discharge

Testing condition  
Discharging: current 0.17C(FV 1.7V/cell);  
Charging: current 0.25C max, voltage 2.45V/cell;  
Charging volume:125% of discharged capacity.



## Discharge characteristics Curve



## Temperature Effects in Relation to Battery Capacity

