

# LP SERIES-General Purpose

## LP12-50 (12V50AH)

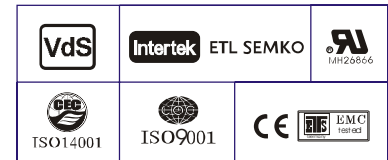
### Specification

Nominal Voltage	12V	
Nominal Capacity(10HR)	50.0AH	
Dimensions	Length	257 ± 3mm (10.1 inches)
	Width	132 ± 2mm (5.19 inches)
	Container Height	200 ± 3mm (7.87 inches)
	Total Height (with Terminal)	200 ± 3mm (7.87 inches)
Approx Weight	Approx 16.0 kg (35.3lbs)	
Terminal	T6/T16-B	
Container Material	ABS	
Rated Capacity	52.0 AH/2.60A	(20hr, 1.80V/cell, 25°C/77°F)
	50.0 AH/5.00A	(10hr, 1.80V/cell, 25°C/77°F)
	43.1 AH/8.62A	(5hr, 1.75V/cell, 25°C/77°F)
	39.0 AH/13.0A	(3hr, 1.75V/cell, 25°C/77°F)
	30.5 AH/30.5A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	600A (5s)	
Internal Resistance	Approx 8mΩ	
Operating Temp. Range	Discharge	-15 ~ 50°C (5 ~ 122°F)
	Charge	0 ~ 40°C (32 ~ 104°F)
	Storage	-15 ~ 40°C (5 ~ 104°F)
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)	
Cycle Use	Initial Charging Current less than 15.0A. Voltage	
	14.4V~15.0V at 25°C(77°F)Temp. Coefficient -30mV/°C	
Standby Use	No limit on Initial Charging Current Voltage	
	13.5V~13.8V at 25°C(77°F)Temp. Coefficient -20mV/°C	
Capacity affected by Temperature	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	Leoch LP 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.	



### Applications

- ◆ All purpose
- ◆ Uninterruptable Power Supply (UPS)
- ◆ Electric Power System (EPS)
- ◆ Emergency backup power supply
- ◆ Emergency light
- ◆ Railway signal
- ◆ Aircraft signal
- ◆ Alarm and security system
- ◆ Electronic apparatus and equipment
- ◆ Communication power supply
- ◆ DC power supply
- ◆ Auto control system



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

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	85.6	67.3	57.2	47.9	38.0	28.8	23.6	15.0	11.9	9.70	7.82	6.81	5.53	4.72	2.58
1.80V/cell	114.9	86.0	69.1	56.6	44.9	33.5	26.4	16.4	12.8	10.4	8.40	7.30	5.86	5.00	2.60
1.75V/cell	129.5	94.5	75.5	60.9	46.6	34.7	27.6	17.0	13.0	10.6	8.60	7.50	5.96	5.05	2.63
1.70V/cell	142.6	103.0	80.6	64.0	48.5	36.1	28.5	17.7	13.4	10.9	8.83	7.66	6.05	5.10	2.68
1.65V/cell	157.3	111.1	85.7	67.9	51.2	37.0	29.5	18.2	13.9	11.2	9.08	7.83	6.14	5.21	2.71
1.60V/cell	173.5	120.6	91.7	72.4	54.0	38.6	30.5	18.8	14.4	11.6	9.38	8.00	6.20	5.26	2.73

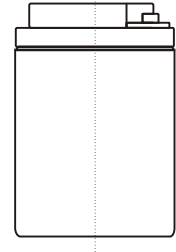
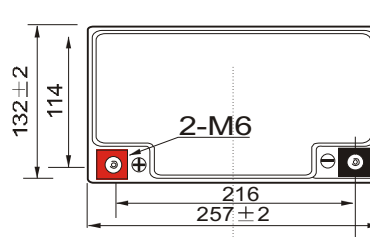
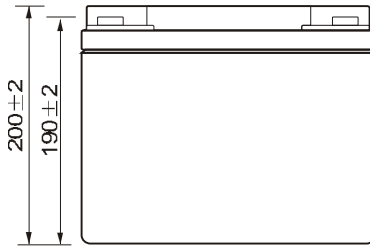
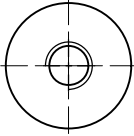
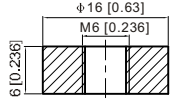
### Constant Power Discharge (Watts/cell) at 25 °C (77 °F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	156.5	124.3	106.8	90.2	72.5	55.3	45.5	29.2	23.1	19.0	15.3	13.4	10.9	9.34	5.10
1.80V/cell	207.8	156.9	127.3	105.1	84.2	63.9	50.7	31.6	24.8	20.1	16.4	14.3	11.5	9.88	5.14
1.75V/cell	229.3	169.7	137.3	111.9	86.7	65.6	52.8	32.7	25.1	20.5	16.7	14.6	11.7	9.97	5.19
1.70V/cell	245.5	180.7	144.5	116.8	89.8	68.0	54.2	33.9	25.8	21.0	17.1	14.9	11.9	10.1	5.28
1.65V/cell	266.9	193.3	152.5	123.1	93.9	69.1	55.7	34.6	26.7	21.7	17.6	15.2	12.0	10.2	5.34
1.60V/cell	287.5	205.0	160.4	129.7	98.5	71.6	57.3	35.6	27.4	22.3	18.1	15.5	12.1	10.3	5.37

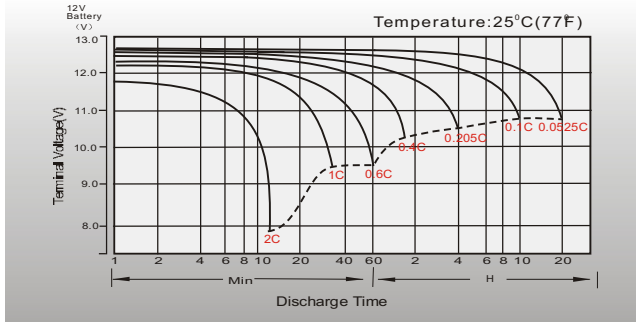
## Dimensions

### T6 Terminal

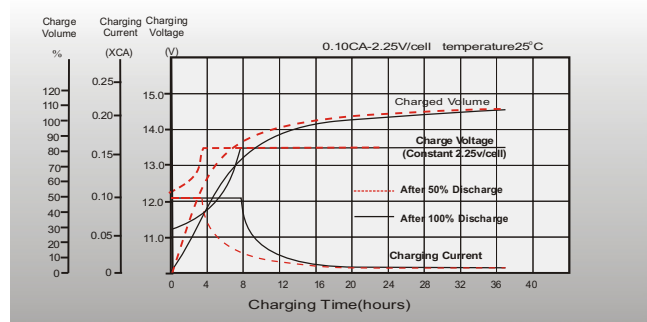
Unit: mm [inches]



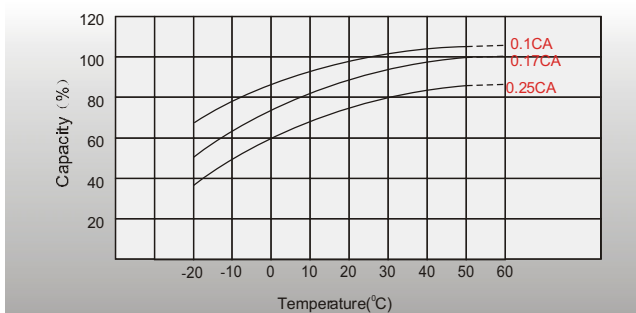
## Discharge Characteristics



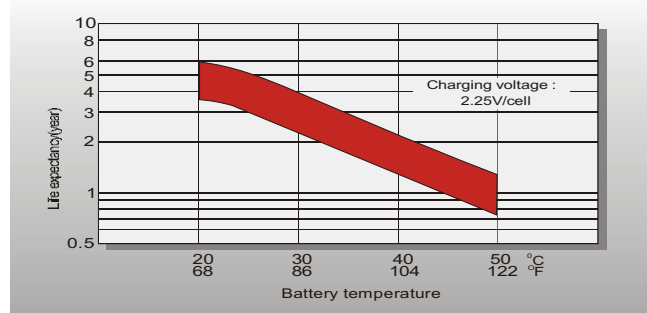
## Float Charging Characteristics



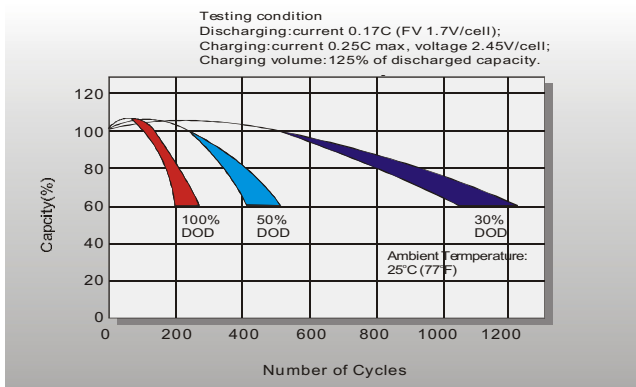
## Temperature Effects in Relation to Battery Capacity



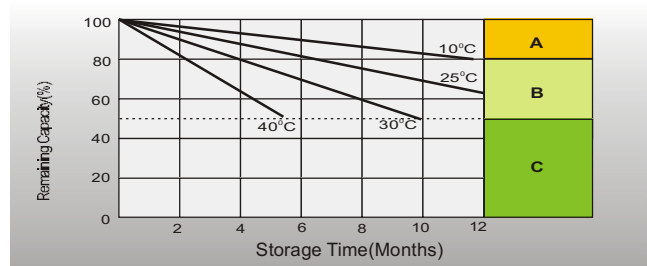
## Effect of Temperature on Long Term Float Life



## Cycle Life in Relation to Depth of Discharge



## Self Discharge Characteristics



- A** No supplementary charge required  
(Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:  
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.  
2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.  
3. Charged for 8-10 hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity.  
The battery should never be left standing till this is reached.

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