

# LP SERIES-General Purpose

## LP12-3.5 (12V3.5AH)



### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	3.5AH	
Dimension	Length	134 ± 1mm (5.28 inches)
	Width	67 ± 1mm (2.64 inches)
	Container Height	60.5 ± 1mm (2.38 inches)
	Total Height (with Terminal)	66.5 ± 1mm (2.62 inches)
Approx Weight	Approx 1.35 kg (2.98lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity	3.50 AH/0.175A	(20hr, 1.80V/cell, 25°C/77°F)
	3.26 AH/0.326A	(10hr, 1.80V/cell, 25°C/77°F)
	3.00 AH/0.60A	(5hr, 1.75V/cell, 25°C/77°F)
	2.67 AH/0.89A	(3hr, 1.75V/cell, 25°C/77°F)
	2.20 AH/2.20A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	52.5A (5s)	
Internal Resistance	Approx 45mΩ	
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 1.05A. 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	6.67	5.12	4.24	3.67	2.83	2.09	1.76	1.04	0.81	0.66	0.54	0.47	0.378	0.316	0.173
1.80V/cell	8.90	6.54	5.12	4.33	3.34	2.43	1.97	1.14	0.88	0.71	0.58	0.50	0.401	0.326	0.175
1.75V/cell	10.1	7.19	5.6	4.66	3.47	2.52	2.06	1.18	0.89	0.72	0.60	0.52	0.408	0.334	0.177
1.70V/cell	11.1	7.83	5.97	4.9	3.61	2.62	2.13	1.21	0.92	0.74	0.61	0.53	0.413	0.341	0.180
1.65V/cell	12.2	8.45	6.35	5.2	3.81	2.69	2.18	1.23	0.96	0.77	0.63	0.54	0.42	0.348	0.182
1.60V/cell	13.5	9.20	6.79	5.54	4.03	2.80	2.20	1.28	0.99	0.79	0.65	0.55	0.424	0.352	0.183

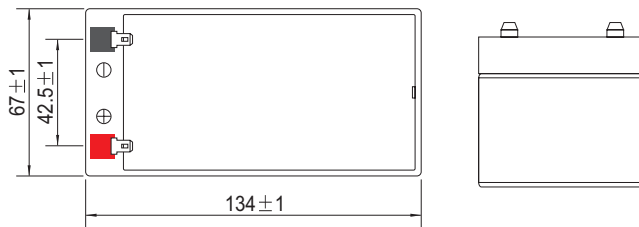
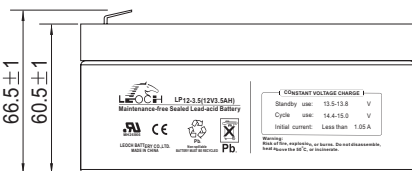
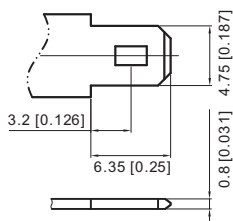
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	12.2	9.50	7.91	6.91	5.40	4.01	3.40	2.02	1.59	1.29	1.06	0.92	0.746	0.625	0.343
1.80V/cell	16.2	11.9	9.40	8.05	6.28	4.63	3.78	2.19	1.70	1.37	1.13	0.98	0.789	0.643	0.346
1.75V/cell	17.9	12.9	10.2	8.58	6.46	4.76	3.94	2.26	1.72	1.40	1.16	1.01	0.801	0.660	0.349
1.70V/cell	19.1	13.8	10.7	8.90	6.69	4.93	4.05	2.32	1.77	1.44	1.18	1.03	0.811	0.672	0.355
1.65V/cell	20.8	14.7	11.3	9.40	7.00	5.01	4.11	2.34	1.84	1.48	1.21	1.05	0.822	0.685	0.360
1.60V/cell	22.4	15.6	11.9	9.90	7.34	5.19	4.13	2.42	1.88	1.52	1.25	1.07	0.828	0.691	0.361

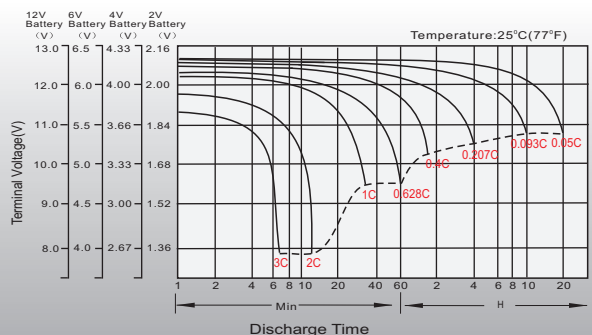
# Dimensions

## T1 Terminal

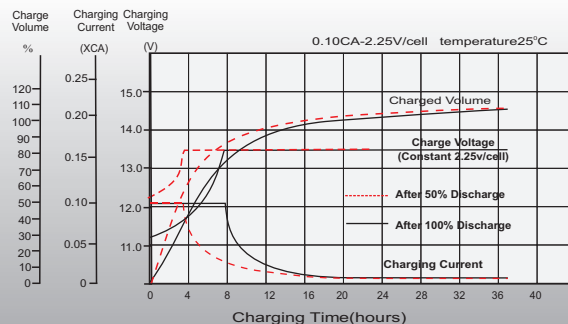
Unit: mm [inches]



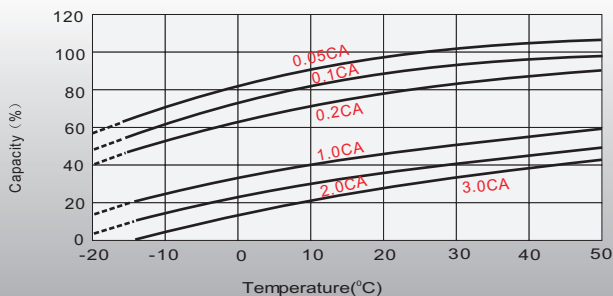
## Discharge Characteristics



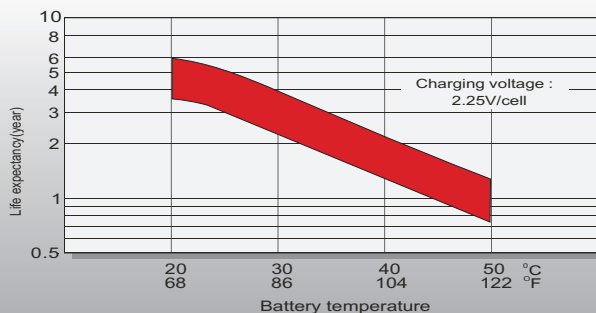
## Float Charging Characteristics



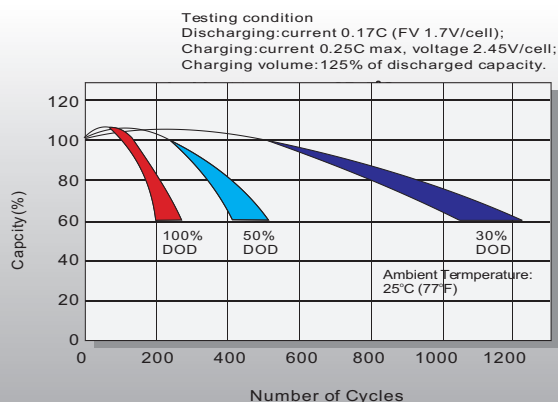
## Temperature Effects in Relation to Battery Capacity



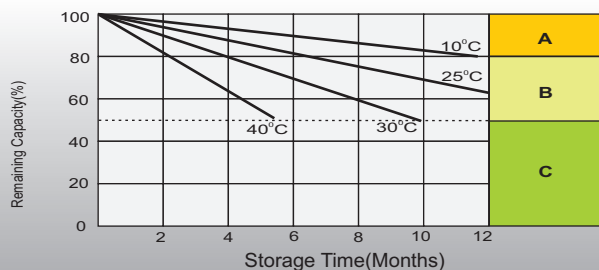
## Effect of Temperature on Long Term Float Life



## 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.

## Sales Office

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