

# LP SERIES-General Purpose

## LP12-2.8 (12V2.8AH)



### Specification

Nominal Voltage	12V	
Nominal Capacity(20HR)	2.8AH	
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 1.18kg (2.60lbs)	
Terminal	T1	
Container Material	ABS	
Rated Capacity	2.80 AH/0.14A	(20hr, 1.80V/cell, 25°C/77°F)
	2.60 AH/0.26A	(10hr, 1.80V/cell, 25°C/77°F)
	2.40 AH/0.48A	(5hr, 1.75V/cell, 25°C/77°F)
	2.13 AH/0.71A	(3hr, 1.75V/cell, 25°C/77°F)
	1.76 AH/1.76A	(1hr, 1.60V/cell, 25°C/77°F)
Max. Discharge Current	42.0A (5s)	
Internal Resistance	Approx 60mΩ	
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 0.84A. 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	5.33	4.09	3.39	2.93	2.27	1.67	1.41	0.83	0.65	0.53	0.432	0.375	0.302	0.253	0.139
1.80V/cell	7.16	5.23	4.10	3.47	2.68	1.94	1.58	0.91	0.70	0.57	0.464	0.402	0.321	0.260	0.140
1.75V/cell	8.07	5.75	4.48	3.73	2.78	2.02	1.65	0.94	0.71	0.58	0.476	0.413	0.326	0.267	0.141
1.70V/cell	8.89	6.27	4.78	3.92	2.89	2.10	1.70	0.97	0.73	0.59	0.488	0.422	0.331	0.273	0.144
1.65V/cell	9.80	6.76	5.08	4.16	3.05	2.15	1.74	0.98	0.77	0.61	0.501	0.431	0.336	0.278	0.146
1.60V/cell	10.81	7.34	5.43	4.44	3.22	2.24	1.76	1.02	0.79	0.63	0.518	0.440	0.339	0.281	0.147

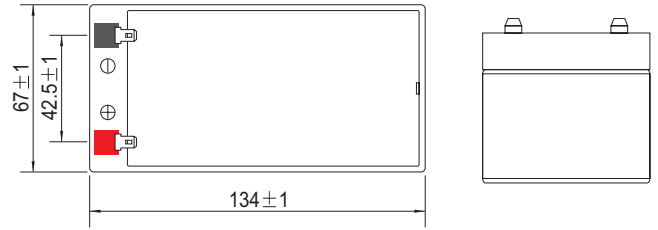
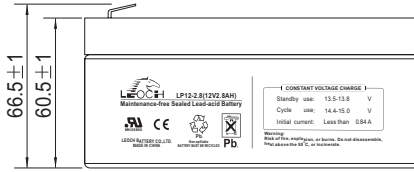
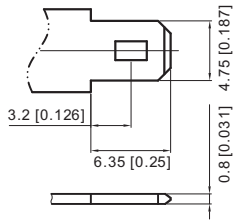
### Constant Power Discharge (Watts) at 25 °C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	9.75	7.56	6.33	5.53	4.32	3.21	2.72	1.62	1.27	1.04	0.847	0.737	0.597	0.500	0.275
1.80V/cell	12.9	9.55	7.54	6.44	5.02	3.71	3.03	1.75	1.36	1.10	0.905	0.787	0.631	0.515	0.277
1.75V/cell	14.3	10.3	8.14	6.86	5.17	3.81	3.15	1.81	1.38	1.12	0.926	0.806	0.641	0.528	0.279
1.70V/cell	15.3	11.0	8.57	7.16	5.35	3.95	3.24	1.85	1.41	1.15	0.948	0.822	0.649	0.538	0.284
1.65V/cell	16.6	11.8	9.04	7.54	5.60	4.01	3.29	1.87	1.47	1.18	0.970	0.837	0.658	0.548	0.288
1.60V/cell	17.9	12.5	9.51	7.95	5.87	4.16	3.31	1.94	1.51	1.22	0.999	0.853	0.663	0.553	0.289

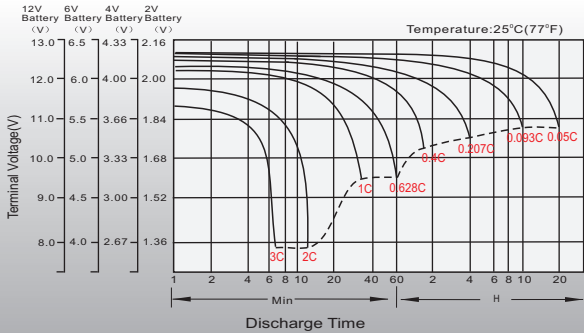
# Dimensions

## T1 Terminal

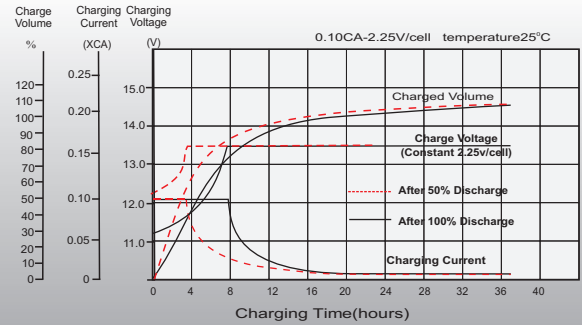
Unit: mm [inches]



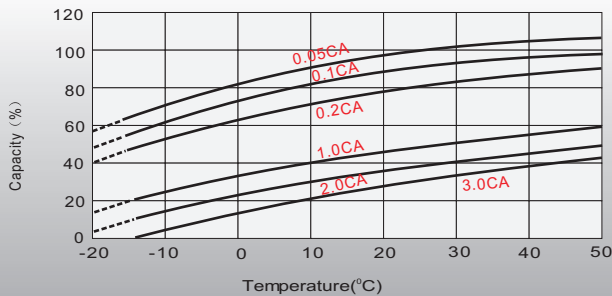
## Discharge Characteristics



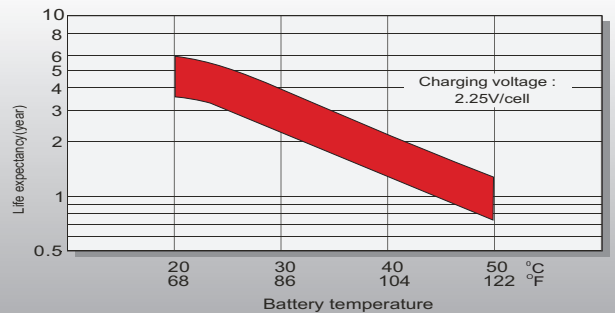
## Float Charging Characteristics



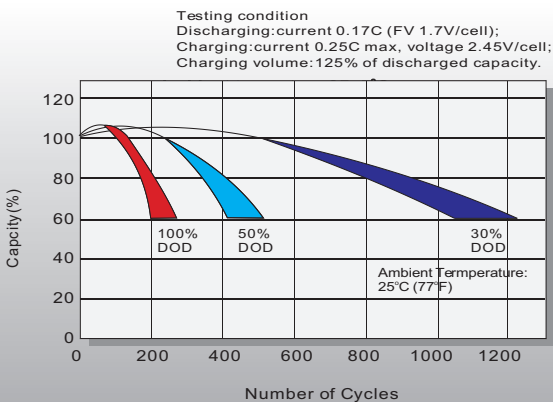
## Temperature Effects in Relation to Battery Capacity



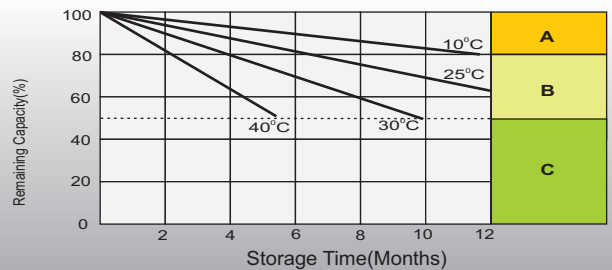
## Effect of Temperature on Long Term Float Life



## 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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