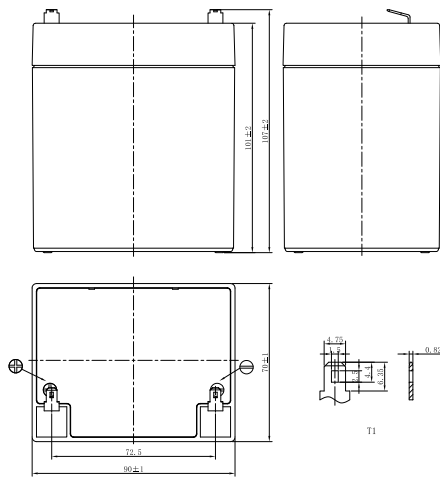


LP SERIES-GENERAL PURPOSE

LP12-4.5 (12V4.5Ah)



CHARACTERISTICS

Item	Specifications	
Rated Voltage	12V	
Nominal Capacity (25°C)	C ₂₀ : 1.75V/cell	4.5Ah
Dimension	Length	90mm (3.54inches)
	Width	70mm (2.76inches)
	Container Height	101mm (3.98inches)
	Total Height	107mm (4.21inches)
Approx Weight	1.39kg (3.06lbs)	
Terminal	T1/T2	
Container Material	ABS (UL94 HB or V-0 optional)	
Short-circuit current	126A	
Internal Resistance (25°C)	Approx 48 mΩ (Fully charged)	
Operating Temp. Range	Discharge	-15~50°C (5~122°F)
	Charge	-20~40°C (-4~104°F)
	Storage	-15~40°C (5~104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)	
Max. Charging Current (25°C)	0.3C	
Charge voltage (25°C)	Standby Use	Cycle Use
	2.25-2.30V/cell	2.35-2.45V/cell
Temp. Coefficient	-3mV/cell/°C	
	-5mV/cell/°C	
Effect of temp. to Capacity	40°C (104°F)	103%
	25°C (77°F)	100%
	0°C (32°F)	86%
Self Discharge	≤3% per month at 25°C (77°F). LP series batteries may be stored 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.	

DISCHARGE TABLE

Constant Current Discharge (Amperes) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	11.3	8.26	6.55	5.35	4.07	2.99	2.44	1.84	1.53	1.09	0.876	0.744	0.637	0.500	0.409	0.220
1.80V/cell	12.2	8.69	6.81	5.51	4.17	3.04	2.48	1.87	1.56	1.11	0.888	0.755	0.645	0.507	0.413	0.222
1.75V/cell	13.1	9.10	7.06	5.68	4.27	3.11	2.53	1.90	1.58	1.13	0.900	0.765	0.653	0.513	0.419	0.225
1.70V/cell	14.1	9.50	7.31	5.84	4.37	3.16	2.57	1.94	1.61	1.14	0.910	0.775	0.662	0.519	0.424	0.227
1.67V/cell	14.8	9.80	7.46	5.95	4.43	3.20	2.60	1.95	1.62	1.15	0.920	0.780	0.667	0.523	0.427	0.229
1.60V/cell	16.0	10.4	7.80	6.17	4.56	3.29	2.66	2.00	1.66	1.17	0.940	0.795	0.679	0.532	0.433	0.231
Constant Power Discharge (Watts/cell) at 25°C (77°F)																
F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	21.3	15.8	12.6	10.3	7.86	5.79	4.74	3.59	3.01	2.15	1.73	1.47	1.26	0.990	0.812	0.489
1.80V/cell	23.0	16.5	13.1	10.5	8.02	5.89	4.82	3.65	3.04	2.18	1.75	1.49	1.28	1.01	0.821	0.494
1.75V/cell	24.7	17.2	13.4	10.8	8.18	5.98	4.89	3.69	3.09	2.21	1.76	1.50	1.29	1.02	0.831	0.499
1.70V/cell	26.4	17.9	13.9	11.1	8.33	6.07	4.96	3.74	3.12	2.23	1.79	1.52	1.31	1.03	0.840	0.504
1.67V/cell	27.4	18.4	14.0	11.3	8.42	6.13	5.00	3.77	3.15	2.25	1.80	1.53	1.31	1.04	0.845	0.507
1.60V/cell	29.5	19.3	14.6	11.6	8.63	6.26	5.09	3.83	3.20	2.29	1.83	1.56	1.33	1.05	0.858	0.515

LP SERIES-GENERAL PURPOSE

LP12-4.5 (12V4.5Ah)



APPLICATIONS

- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

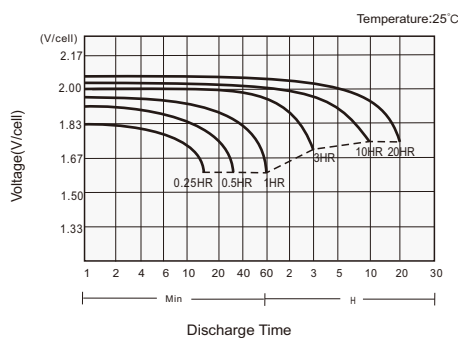
GENERAL FEATURES

- 5 years design life (25°C)
- Lead calcium alloy, sealed design, no watering required
- Puncture resistant micro-porous glass mat separators extend life
- Unique technology optimizes power capacity, cell consistency, and long-term reliability
- Designed for a wide range of applications

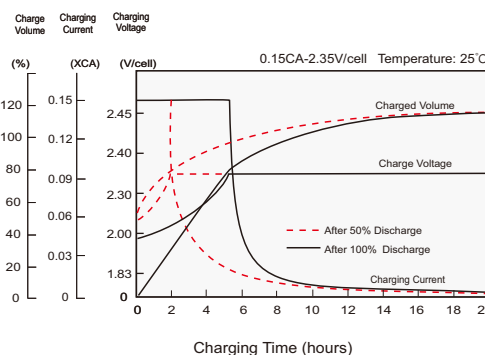
STANDARDS

- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Approved
- Manufactured in Leoch@IATF 16949, ISO 45001, ISO 9001 and ISO 14001 certified production facilities

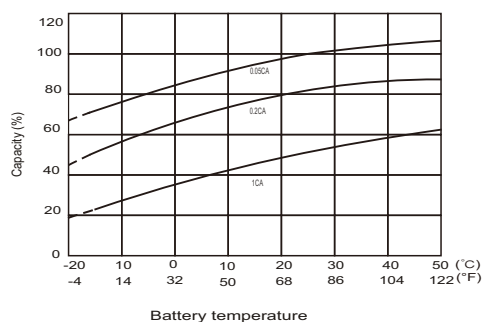
Discharge Characteristics



Charging Characteristics



Effects of Temperature on Capacity



Self Discharge Characteristics

