

# VALVE REGULATED LEAD ACID BATTERY- MINI CAPACITY SERIES

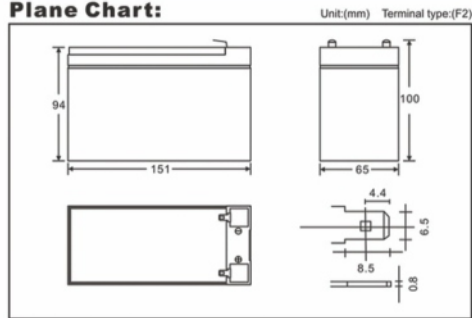


MODEL: TP9-12

Product Code: VRLA-1209001



### Plane Chart:



### Characteristic:

1. 100% testing before out of factory, stable and reliable quality is guaranteed.
2. Professional alloy formula and advanced manufacturing techniques.
3. Completely sealed and maintenance free, low self-discharge.
4. Good charge-discharge acceptability.
5. Cyclic application: deep cycle charge-discharge for more than 260 times.
6. Floating application: for 3-5 years.

### Application:

- Anti-theft system
- Radio transceiver
- Power system
- Railroad engine and railway communication
- Emergency lighting and lamps
- Electric tools
- Electronic instruments and other backup power
- Medical facilities
- UPS for banking system
- Computer backup power
- Marine system
- UPS for fire fighting system
- Toys

### Parts:

Executed Standard: GB/T 19639.1-2005

Cover	Container Bottom	Terminal	Positive Plate	Negative Plate	Separator	Electrolyte	Safety Valve	Seal Glue
ABS	ABS	Copper	PbO <sub>2</sub>	Pb	AGM	dilute sulphuric acid	Rubber	Epoxy Resin

### Packing

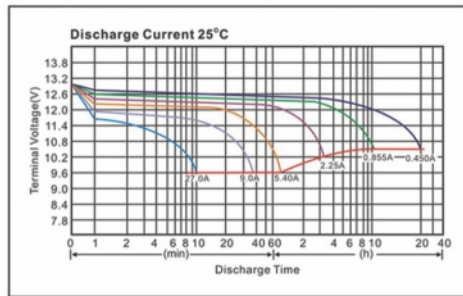
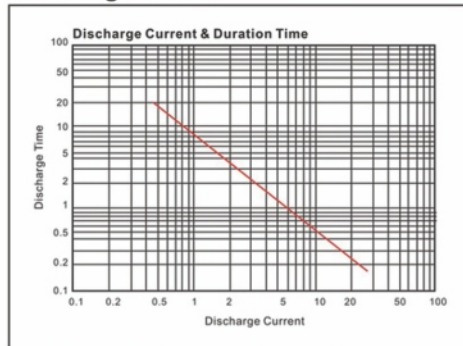
Date	Battery Packing	Inner Packing	Outer Packing
① Printing	① Polybag	Paper Box	Carton Packing
② Branded	② Shrink		
Carton Sealing		Accessories	
① Packing Strap		Bolts&nuts	Mini Charger
② Shrink		With	Optional

### Parameter Chart:

Volts		12V	
Capacity(25°C)		20 hours rate (0.45A)	9Ah
Discharge Current Testing (25°C)		20 I <sub>10</sub> rate (9A, 27min)	40min
		60 I <sub>10</sub> rate(27A, 7min)	10min
Internal Resistance		Full Charged Battery 25°C	20mΩ
Capacity Affected By Temperature (20 hours rate)		40°C	102%
		25°C	100%
		0°C	85%
		-15°C	62%
Residual Capacity (25°C)		Capacity After 3 Months Storage	91%
		Capacity After 6 Months Storage	82%
		Capacity After 12 Months Storage	64%
Cycle (Above 300 Time)		Discharge 2hrs at 2.25A Current Charge 6hrs at 0.9A Current (25°C)	
Charge (Constant Voltage)	Cycle (25°C)	Initial Charging Current Less Than 2.7A Voltage 14.5-14.9V	
	Float (25°C)	Charge Voltage 13.6-13.8V	
Weight (Approx)			2.5Kg

\*The above are average and date obtained from the first 3 charge/discharge cycles. These are not minimum values.

### Discharge Curve



Constant Current Discharge (Amperes) at 25°C (77°F)												
F.V/Time	5min	10min	15min	30min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.80V/cell	24.84	18.63	13.50	9.09	5.31	2.97	2.250	1.800	1.584	1.296	0.846	0.441
1.75V/cell	25.74	18.99	13.77	9.27	5.38	3.06	2.340	1.890	1.620	1.314	0.864	0.450
1.70V/cell	28.08	20.16	14.58	9.63	5.49	3.15	2.403	1.917	1.647	1.341	0.880	0.457
1.65V/cell	30.87	21.87	15.84	10.17	5.49	3.17	2.430	1.940	1.665	1.350	0.891	0.459
1.60V/cell	33.48	22.95	16.65	10.62	5.58	3.24	2.448	1.953	1.683	1.377	0.900	0.468

Constant Power Discharge (Watts/cell) at 25°C (77°F)												
F.V/Time	5min	10min	15min	30min	1Hr	2Hr	3Hr	4Hr	5Hr	6Hr	10Hr	20Hr
1.80V/cell	325.40	239.54	191.97	114.16	65.51	35.49	26.228	21.677	18.090	15.197	10.103	5.292
1.75V/cell	376.60	259.47	200.83	118.53	67.46	36.18	26.757	22.063	18.360	15.429	10.260	5.400
1.70V/cell	400.14	268.87	206.98	121.23	68.68	36.80	27.000	22.449	18.463	15.737	10.314	5.427
1.65V/cell	418.12	276.29	211.73	122.90	69.50	37.18	27.194	22.680	18.527	15.891	10.336	5.438
1.60V/cell	432.00	280.80	216.00	124.20	70.20	37.57	27.346	22.911	18.576	16.046	10.336	5.438