

# PCA7-12 BATTERY

## AGM DEEP CYCLE



### SPECIFICATION

Nominal Voltage	12 V	
Nominal Capacity(10HR)	7.0AH	
Dimension	Length	151 ± 1mm
	Width	65 ± 1mm
	Container Height	94.5 ± 1mm
	Total Height (with Terminal)	100 ± 1mm
Approx Weight	Approx 2.10 Kg	
Terminal	T1 / T2	
Container Material	ABS	
Rated Capacity	7.00 A H/0.35A	(20hr, 1.80V/cell, 25 °C/77 °F)
	6.51 A H/0.65A	(10hr, 1.80V/cell, 25 °C/77 °F)
	5.95 A H/1.19A	(5hr, 1.75V/cell, 25 °C/77 °F)
	5.37 A H/1.79A	(3hr, 1.75V/cell, 25 °C/77 °F)
	4.40 A H/4.40A	(1hr, 1.60V/cell, 25 °C/77 °F)
Max. Discharge Current	105A (5s)	
Internal Resistance	Approx 23.0 mOhm	
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 3.9A. 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	Prime PCA 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.	

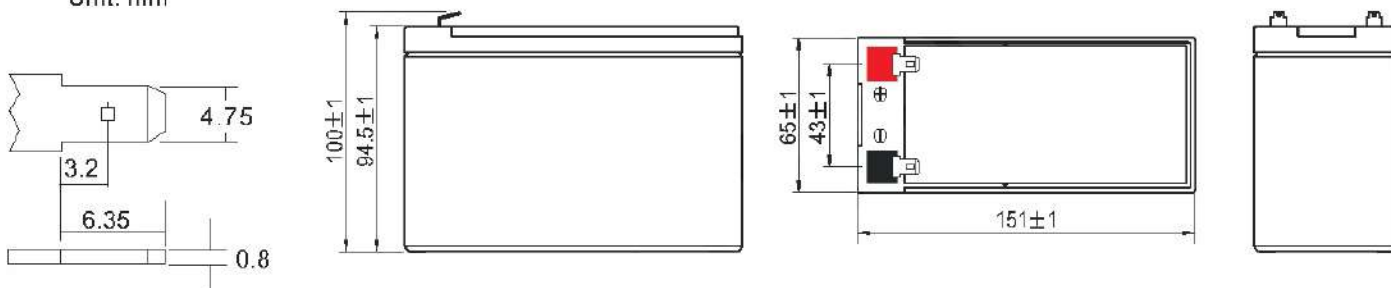
### Applications

- 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

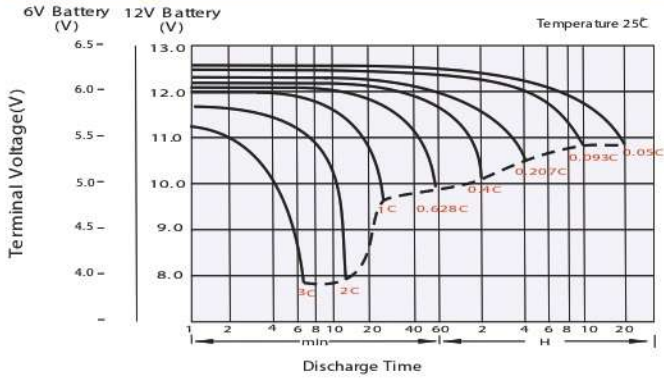
### DIMENSIONS

#### T1 Terminal

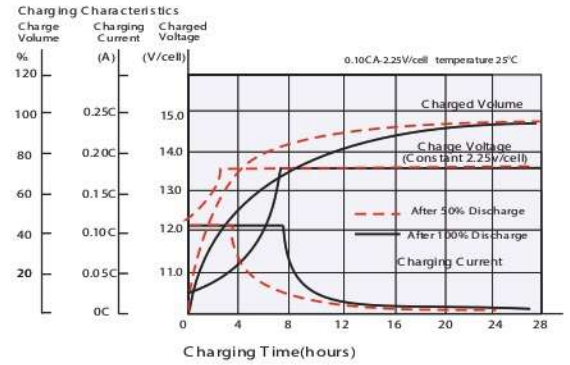
Unit: mm



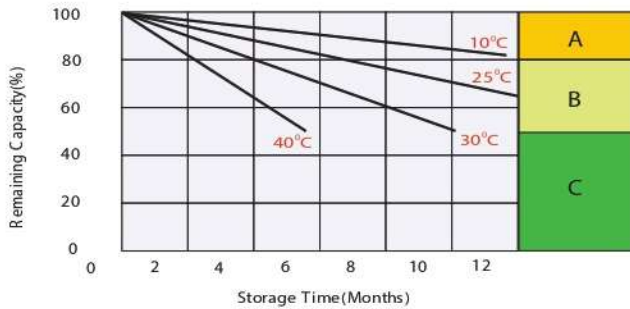
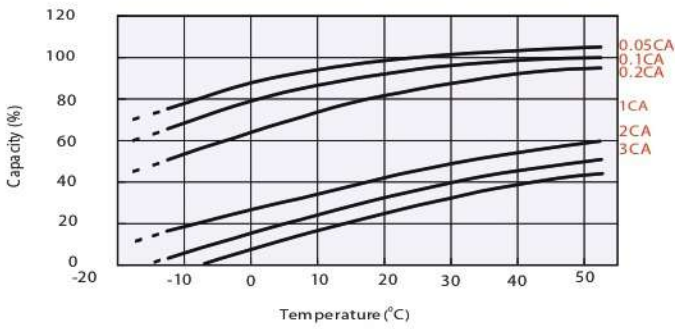
## Discharge Characteristics



## Charging Characteristics (cycle use)

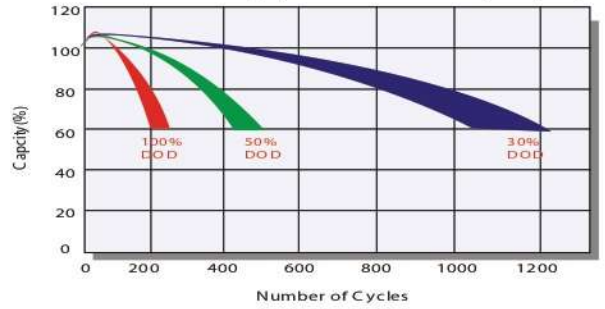


## Temperature Effects in Relation to Battery Capacity



## Cycle Life in Relation to Depth of Discharge

Testing condition  
 Discharging: current 0.17C (FV 1.7V/cell);  
 Charging: current 0.25C max, voltage 2.45V/cell;  
 Charging volume: 12.5% of discharged capacity.



## Self Discharge Characteristics

- A** Supplementary charge may often fail to recover the capacity  
 The battery should never be left standing till this is reached
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25C A 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 0.05C A.
- C** No supplementary charge required  
 (Carry out supplementary charge before use if 100% capacity is required).

### 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	13.3	10.2	8.48	7.33	5.67	4.18	3.52	2.08	1.63	1.32	1.08	0.94	0.756	0.631	0.347
1.80V/cell	17.9	13.1	10.2	8.67	6.69	4.86	3.94	2.27	1.75	1.41	1.16	1.01	0.802	0.651	0.350
1.75V/cell	20.2	14.4	11.2	9.32	6.94	5.04	4.13	2.36	1.79	1.45	1.19	1.03	0.816	0.669	0.354
1.70V/cell	22.2	15.7	11.9	9.80	7.23	5.24	4.26	2.42	1.83	1.48	1.22	1.05	0.827	0.682	0.360
1.65V/cell	24.5	16.9	12.7	10.4	7.63	5.37	4.35	2.45	1.91	1.54	1.25	1.08	0.840	0.696	0.365
1.60V/cell	27.0	18.4	13.6	11.1	8.05	5.60	4.40	2.56	1.97	1.58	1.30	1.10	0.848	0.704	0.367

### 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	24.4	18.9	15.8	13.8	10.8	8.03	6.79	4.04	3.18	2.59	2.12	1.84	1.492	1.250	0.686
1.80V/cell	32.4	23.9	18.9	16.1	12.6	9.26	7.57	4.38	3.40	2.75	2.26	1.97	1.578	1.286	0.692
1.75V/cell	35.7	25.8	20.3	17.2	12.9	9.52	7.88	4.53	3.45	2.80	2.31	2.02	1.602	1.319	0.698
1.70V/cell	38.2	27.5	21.4	17.9	13.4	9.86	8.10	4.63	3.54	2.87	2.37	2.05	1.622	1.345	0.710
1.65V/cell	41.6	29.4	22.6	18.9	14.0	10.0	8.23	4.67	3.67	2.96	2.43	2.09	1.644	1.370	0.719
1.60V/cell	44.8	31.2	23.8	19.9	14.7	10.4	8.26	4.85	3.76	3.04	2.50	2.13	1.656	1.383	0.722

Specifications subject to change without notice.