

## NPD12-28Ah (12V28Ah)

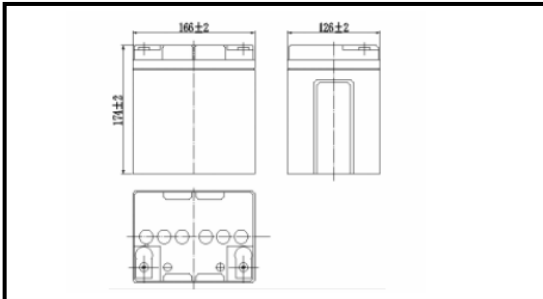
### Valve Regulated Lead Acid Battery



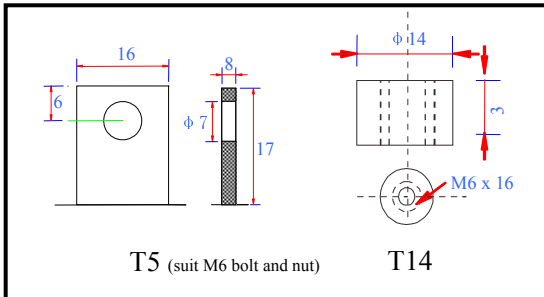
#### Specifications

Nominal voltage	12V (6 cells per unit)	
Rated capacity (20HR)	28Ah	
Dimensions	Length	166±2mm (6.54inch)
	Width	126±2mm (4.96inch)
	Height	174±2mm (6.85inch)
	Total height	T14: 174±2mm (6.85inch) T5: 181±2mm (7.13inch)
Approx. weight	8.80kg (19.40 lbs)±4%	

#### Outer dimensions (mm)



#### Terminal type (mm)



#### Characteristics

Capacity (25°C)	20HR (10.5V)	28Ah
	10HR (10.5V)	26Ah
	1HR (9.60V)	17Ah
Terminal type		T5/T14
Internal resistance (Fully charged, 25°C)		Approx. 10 mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity: 91%
	6 months	Remaining capacity: 82%
	12 months	Remaining capacity: 65%
Nominal operating temperature		25°C±3°C (77°F±5°F)
Operating temperature range	Discharge	-15°C~50°C (5°F~122°F)
	Charge	-10°C~50°C (14°F~122°F)
	Storage	-20°C~50°C (-4°F~122°F)
Float charging voltage (25°C)		13.50 to 13.80V Temperature compensation: -18mV/°C
Cyclic charging voltage (25°C)		14.50 to 15.0V Temperature compensation: -30mV/°C
Maximum charging current		8.4A
Maximum discharge current		360A (5 sec.)
Design life	10 years for floating (20°C)	
	Eurobat (20°C): 10-12 years, long life.	

#### Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper/Lead

#### Constant current discharge characteristics unit: Ampere (at 25°C, 77°F)

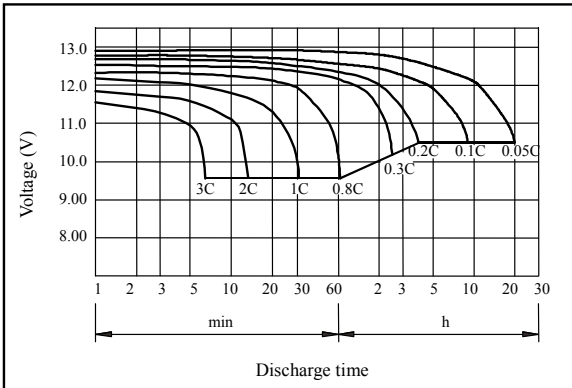
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	107	67.8	52.9	29.8	18.3	10.1	7.01	5.80	4.93	2.68	1.44
9.90V	104	65.7	51.6	29.2	18.1	10.1	6.97	5.76	4.90	2.67	1.43
10.2V	99.5	63.0	49.7	28.3	17.6	9.98	6.92	5.72	4.87	2.65	1.42
10.5V	95.2	60.3	48.1	27.6	17.3	9.83	6.87	5.68	4.84	2.64	1.41
10.8V	89.8	56.9	45.5	26.6	16.7	9.58	6.67	5.51	4.69	2.59	1.39

#### Constant power discharge characteristics unit: Watt (at 25°C, 77°F)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	1194	764	603	342	212	119	83.3	69.1	58.9	32.1	17.2
9.90V	1158	741	589	335	209	118	82.8	68.6	58.5	32.0	17.2
10.2V	1110	711	567	325	204	117	82.2	68.2	58.1	31.9	17.1
10.5V	1062	680	548	317	200	115	81.6	67.7	57.7	31.7	17.0
10.8V	1003	642	519	305	194	112	79.2	65.7	56.0	31.0	16.6

Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

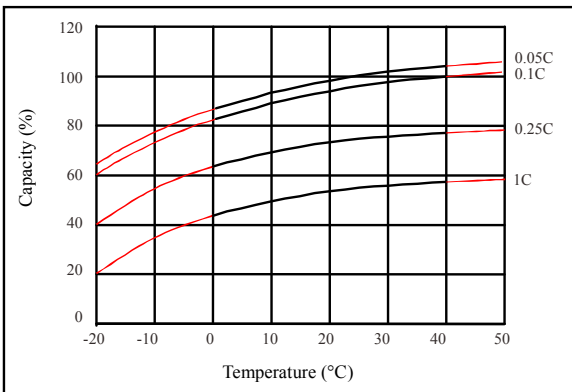
### ● Discharge characteristics (25°C)



### ● Charging characteristics (25°C)



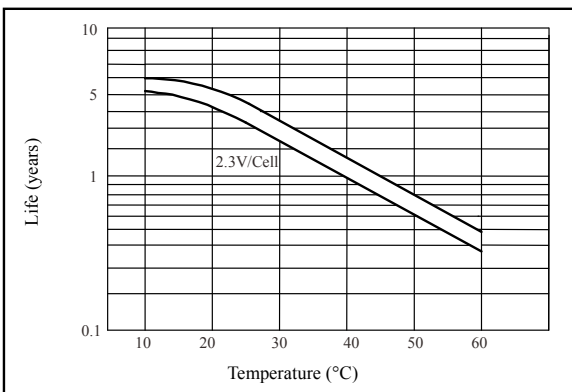
### ● Temperature effects on capacity



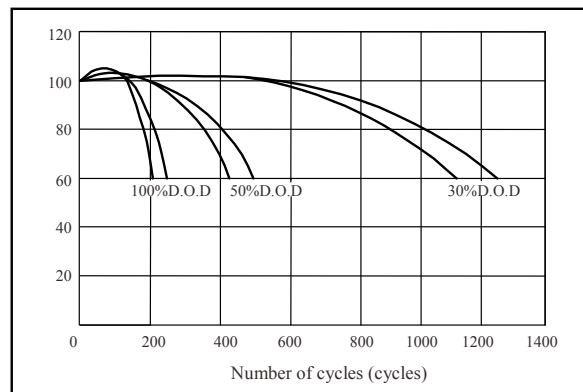
### ● Self-discharge characteristics



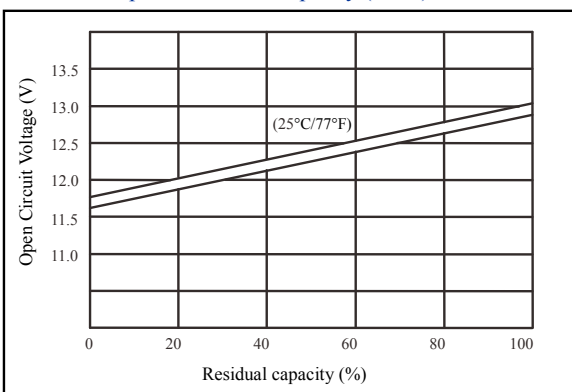
### ● Floating life on temperature



### ● Cycle life on D.O.D (25°C)



### ● Relationship for OCV and capacity (25°C)



### ● Relationship for charging voltage and temperature

