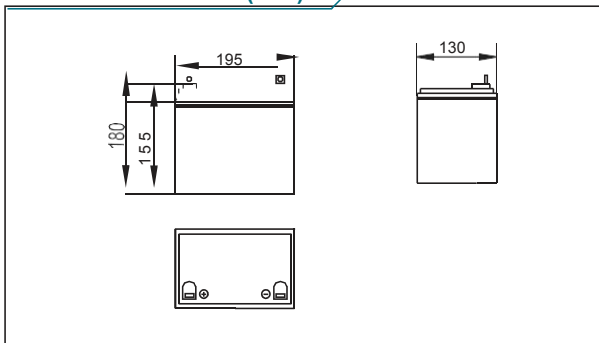


## TYD12-33 12V33Ah

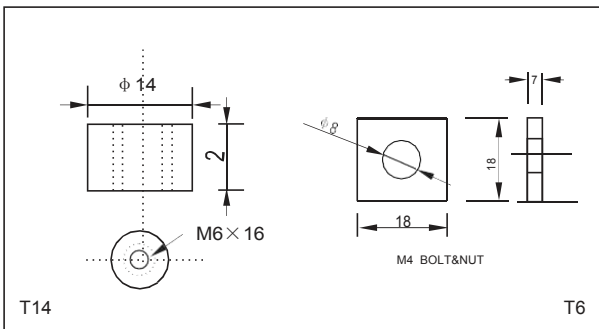
### Specifications

Nominal Voltage		12V
Rated capacity (20 hour rate)		33Ah
Dimensions	Length	195±2mm(7.68inch)
	Width	130±2mm(5.12inch)
	Height	155±2mm6.10inch)
	Total Height	T14:167±2mm(6.57inch) T6:180±2mm(7.09inch)
Approx. Weight		9.4kg(20.68lbs)±4%

### Outer dimensions (mm)



### Terminal Type (mm)



### Characteristics

Capacity (25°C)	20HR(10.8V)	33Ah
	10HR(10.8V)	31Ah
	1HR(10.5V)	17.94Ah
Terminal type		T14/T6
Internal resistance (Fully charged, 25°C)		Approx.9m Ω
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 15.00V Temperature compensation: -30mV/°C
Maximum charging current		9.9A
Maximum discharge current		312A(5 sec.)
Designed floating life(20°C)		10years

### 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:A(25°C, 77°F)

F.V/Time	10m i n	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	69.9	53.9	32.3	19.8	11.7	8.45	6.74	5.76	3.96	3.27	1.73
9.90V	67.8	52.6	31.6	19.5	11.7	8.39	6.70	5.73	3.94	3.26	1.73
10.2V	65.1	50.7	30.7	19.1	11.5	8.34	6.66	5.69	3.91	3.25	1.73
10.5V	62.3	48.9	29.9	18.4	11.4	8.28	6.61	5.65	3.88	3.23	1.71
10.8V	58.8	46.3	28.8	17.8	11.1	8.03	6.41	5.48	3.77	3.21	1.70

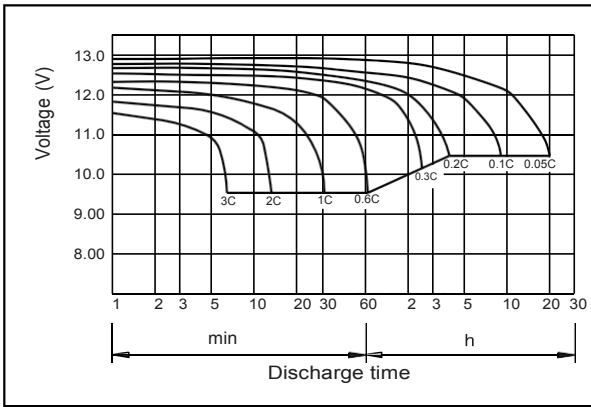
### Constant Power Discharge Characteristics Unit:W(25°C, 77°F)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	755	592	362	227	136	99	79.3	68.1	47.1	38.9	20.8
9.90V	733	578	355	223	135	99	78.8	67.7	46.8	38.8	20.8
10.2V	702	557	344	217	134	98	78.3	67.2	46.4	38.7	20.7
10.5V	672	537	335	211	132	97	77.8	66.7	46.2	38.6	20.6
10.8V	634	509	323	204	128	94	75.4	64.8	44.7	38.3	20.4

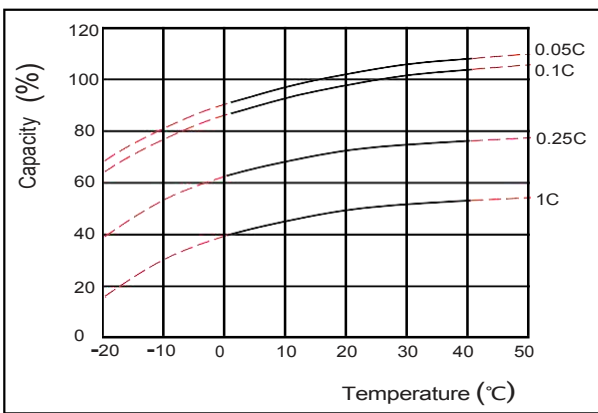
Note: The above characteristics data can be obtained within three charge or discharge cycles.

# TYD12-33Ah 12V33Ah

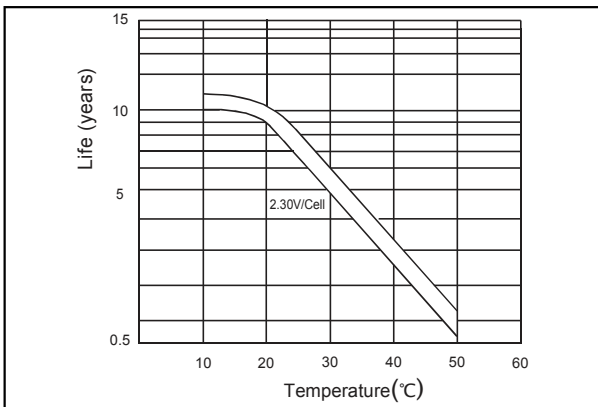
## Discharge characteristics(25°C)



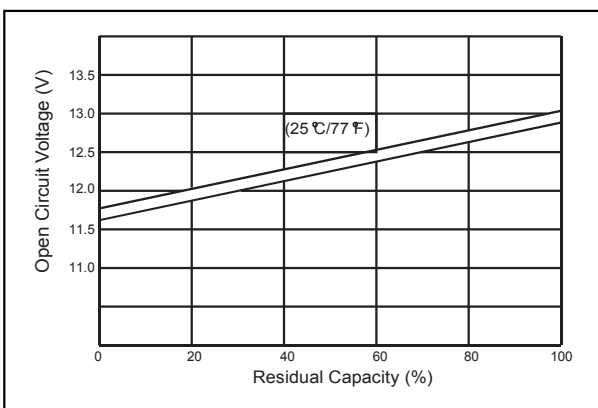
## Temperature effects on Capacity



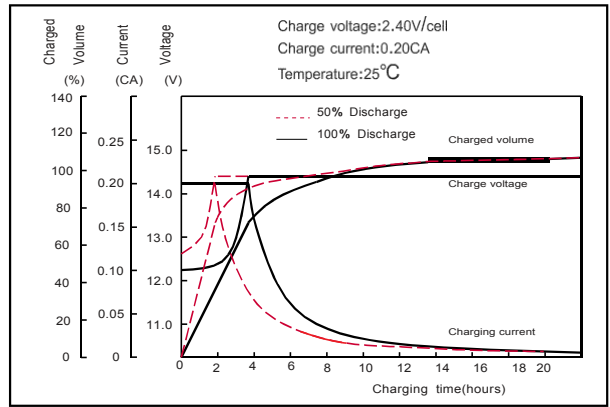
## Floating life on Temperature



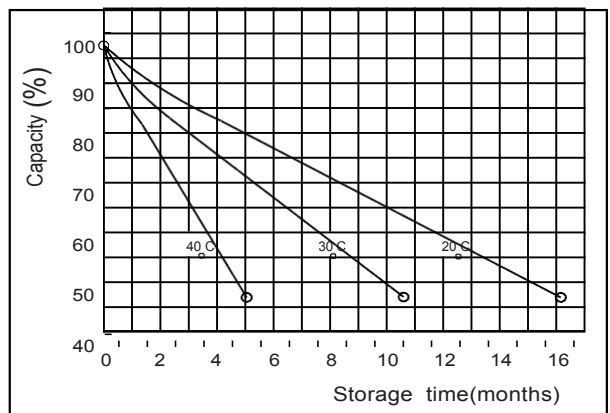
## The relationship for OCV and Capacity (25°C)



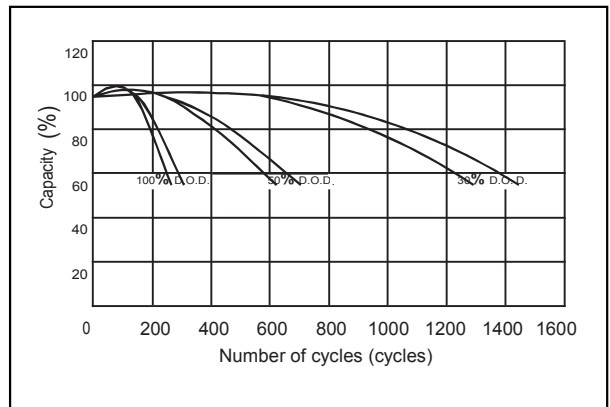
## Charging characteristics (25°C)



## Self-discharge characteristics



## Cycle life on D.O.D (25°C)



## The relationship for Charging voltage and Temperature

