

## Product Features

General Purpose (GEL)		240~280 Cycle Times @100%DOD	
↑20% Cycle Life High temperature curing	↑10% Low Temp. Capacity Nano gel electrolyte	↑20% Charge Acceptance Special negative additive	↓50% Grid Corrosion Rare-earth patent alloy



## Product Applications



## Physical Specification

Model	Dimensions (mm/inch)				Weight (kg/lbs)	Terminal	Container
TNG12-33	Length	Width	Height	Total Height	10.0/22.0	I1	ABS UL94-HB (Optional: FR ABS UL94-V0)
	195/7.68	130/5.12	157.5/6.20	162/6.38			

## Product Specifications

Nominal Voltage	Rated Capacity <sup>25°C/77°F</sup>	Internal Resistance	Max. Discharge Current	Operating Temp. Range
12V	33Ah 20hr Rate (1.80V/cell) 31Ah 10hr Rate (1.80V/cell) 27Ah 5hr Rate (1.75V/cell) 24Ah 3hr Rate (1.70V/cell)	12.4mΩ@25°C/77°F	462A (5s)	Discharge: -15~50°C (5~122°F) Charge: -0~40°C (32~104°F) Storage: -15~40°C (5~104°F) Optimum: 25±2°C (77±4°F)

## Constant Current Discharge (A)@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	70.9	44.7	34.3	28.7	22.0	16.9	14.0	8.99	6.91	5.68	4.88	4.34	3.55	2.98	1.62
1.80V/cell	78.6	49.5	38.9	32.8	25.1	18.9	15.5	9.60	7.37	6.00	5.15	4.54	3.72	3.12	1.65
1.75V/cell	84.7	54.3	42.6	36.1	27.4	20.4	16.7	10.4	7.87	6.39	5.43	4.72	3.83	3.20	1.68
1.70V/cell	89.1	58.0	45.5	38.6	29.1	21.5	17.5	10.8	8.15	6.58	5.58	4.84	3.91	3.24	1.72
1.67V/cell	96.2	61.0	48.2	40.8	30.8	22.4	18.2	11.2	8.31	6.72	5.70	4.94	3.97	3.28	1.75
1.60V/cell	106	65.5	52.3	44.6	32.5	23.8	19.2	11.6	8.68	6.98	5.87	5.09	4.08	3.36	1.78

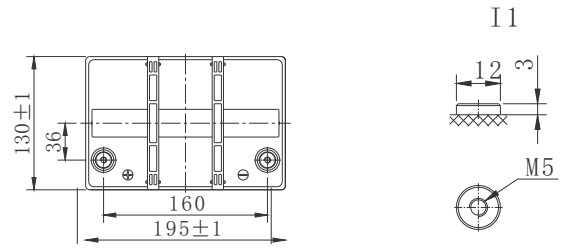
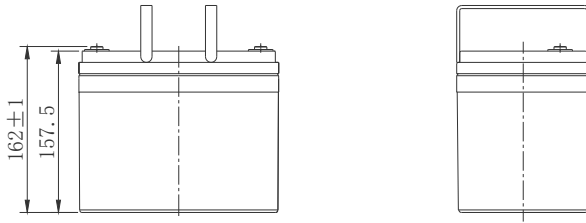
## Constant Power Discharge (W/cell)@25°C (77°F)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	132	84.8	65.8	55.7	43.2	33.6	27.8	18.1	14.0	11.5	9.96	8.87	7.28	6.11	3.34
1.80V/cell	146	93.5	74.5	63.4	49.2	37.3	30.8	19.2	14.9	12.1	10.5	9.25	7.61	6.38	3.39
1.75V/cell	157	102	81.2	69.6	53.6	40.2	33.0	20.8	15.8	12.9	11.0	9.59	7.83	6.55	3.45
1.70V/cell	165	109	86.5	74.1	56.8	42.3	34.5	21.5	16.3	13.2	11.3	9.80	7.94	6.59	3.50
1.67V/cell	178	114	91.3	78.1	59.9	43.9	35.8	22.3	16.6	13.5	11.5	9.99	8.05	6.67	3.56
1.60V/cell	195	122	98.5	85.1	62.9	46.5	37.7	22.9	17.3	14.0	11.8	10.25	8.24	6.79	3.61

# TNG12-33 [12V33Ah]

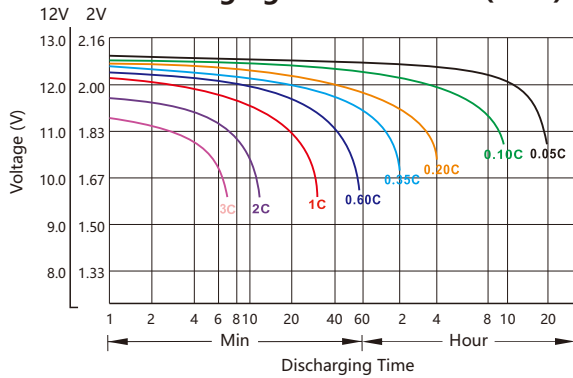


## Battery Dimensions(mm)

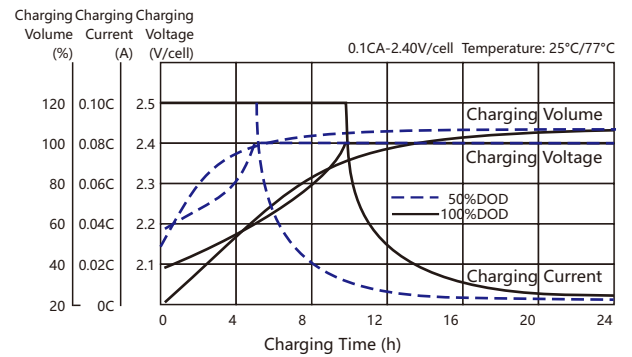


## Electrical Characteristics

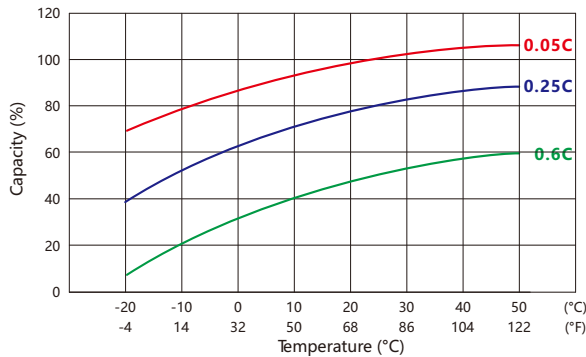
### Discharging Characteristics(25°C)



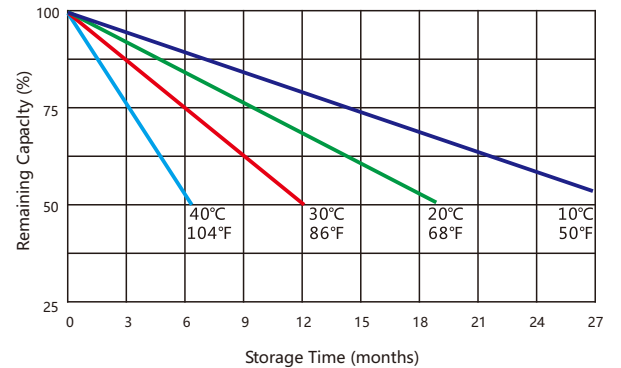
### Charging Characteristics(25°C)



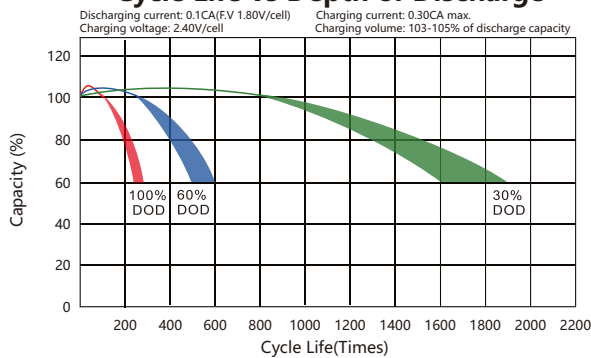
### Capacity vs Temperature



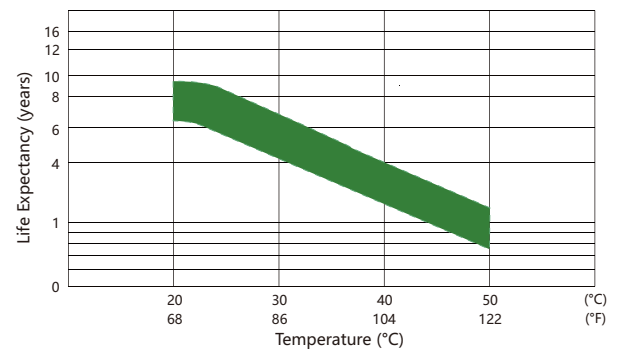
### Self-discharge vs Time



### Cycle Life vs Depth of Discharge



### Floating Life vs Temperature



## Usage and Maintenance

Charge Current	Equalization Charge	Float Charge
Limited current: $\leq 0.3C_{20A}$	Constant Voltage: 14.4~14.7V@25°C(77°F) Temp.Coefficient:-24mV/°C	Constant Voltage: 13.5~13.8V@25°C(77°F) Temp.Coefficient:-18mV/°C