

# TNE 12-52 [12V52Ah]



## Product Features

**Deep Cycle High Power Series 400~600 Cycle Times @100%DOD**

**↑10%W/2hr**  
Discharging Power  
High Rate Formula

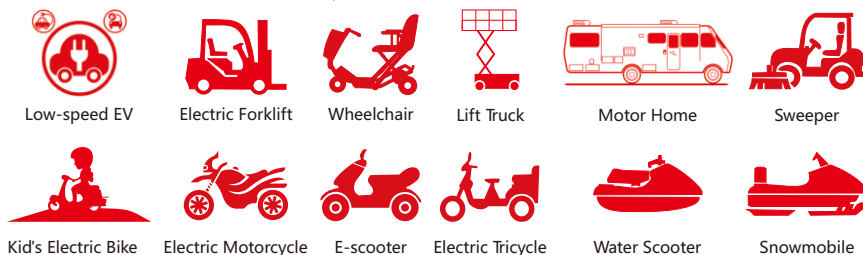
**>40Wh/kg**  
Energy Density  
Special Paste Formula

**↑40%**  
Power Output Area  
High Density Grouping

**↓50%**  
Grid Corrosion  
Rare-earth patent alloy



## Product Applications



## Physical Specification

Model	Dimensions (mm/inch)				Weight (kg/lbs)	Terminal	Container
TNE12-52	Length	Width	Height	Total Height	12.6/27.8	I1	ABS UL94-HB (Optional: FR ABS UL94-V0)
	224/8.82	120/4.72	175/6.89	175/6.89			

## Product Specifications

Nominal Voltage	Rated Capacity 25°C/77°C	Operating Temp. Range	Capacity Effected Temp	Capacity vs Storage Time
12V	52.0Ah 20hr Rate (1.80V/cell)	Discharge:-15°C~50°C (5°F~122°F)	40°C (104°F):106%	Three months : 90% Six months : 80% Nine months : 60%
	49.4Ah 10hr Rate (1.80V/cell)	Charge:0°C~40°C (32°F~104°F)	25°C (77°F):100%	
	48.2Ah 5hr Rate (1.75V/cell)	Storage:-15°C~40°C (5°F~104°F)	0°C (32°F):85%	
	46.5Ah 3hr Rate (1.75V/cell)	Optimum:25°C±2°C (77°F±5°F)	-15°C (5°F):75%	

## Constant Current Discharge (A)@25°C (77°F)

F.V/Time	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	61.3	50.2	36.6	21.0	15.2	11.7	9.49	7.95	6.02	4.87	2.55
1.80V/cell	62.8	51.1	37.3	21.3	15.4	11.8	9.58	8.04	6.10	4.94	2.60
1.75V/cell	64.1	52.1	37.9	21.5	15.5	11.9	9.64	8.09	6.13	4.96	2.61
1.70V/cell	65.3	52.8	38.4	21.7	15.7	12.0	9.69	8.13	6.16	4.98	2.62
1.67V/cell	66.5	53.7	38.8	21.9	15.7	12.0	9.72	8.15	6.18	4.99	2.62
1.60V/cell	68.2	54.5	39.2	22.2	15.8	12.1	9.74	8.17	6.19	5.00	2.62

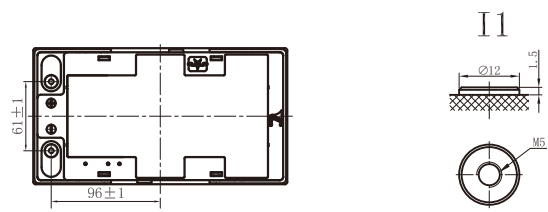
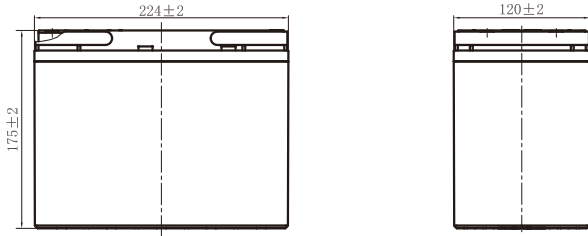
## Constant Power Discharge (W/cell)@25°C (77°F)

F.V/Time	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	120.8	99.5	72.8	41.9	30.4	23.5	19.0	15.92	12.06	9.74	5.10
1.80V/cell	123.7	101.3	74.1	42.5	30.8	23.7	19.2	16.09	12.21	9.88	5.20
1.75V/cell	126.2	103.2	75.3	43.0	31.1	23.9	19.3	16.2	12.25	9.92	5.22
1.70V/cell	128.3	104.6	76.2	43.4	31.3	24.0	19.3	16.2	12.30	9.95	5.24
1.67V/cell	130.5	106.1	77.1	43.7	31.4	24.0	19.4	16.3	12.32	9.96	5.24
1.60V/cell	133.6	107.6	77.7	44.2	31.5	24.1	19.4	16.3	12.34	9.97	5.23

# TNE 12-52 [12V52Ah]

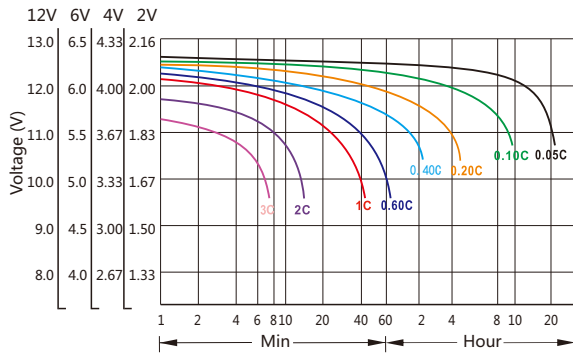


## Battery Dimensions(mm)

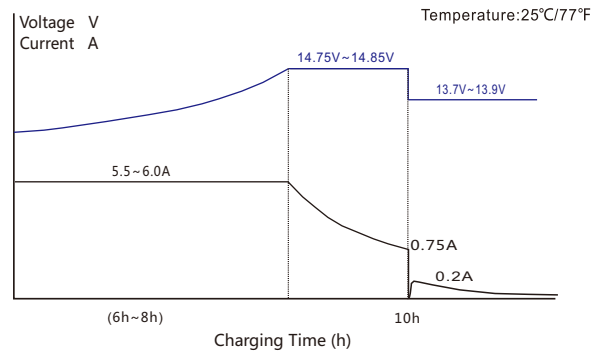


## Electrical Characteristics

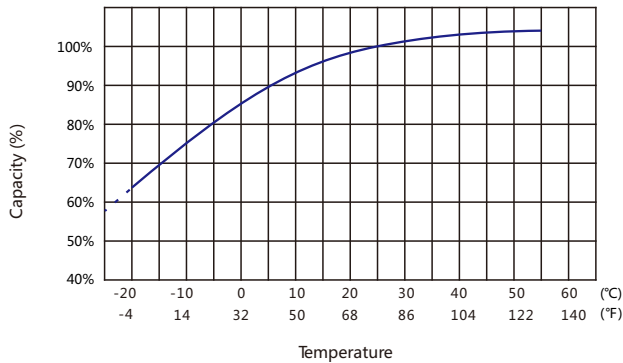
### Discharging Characteristics@25°C(77°F)



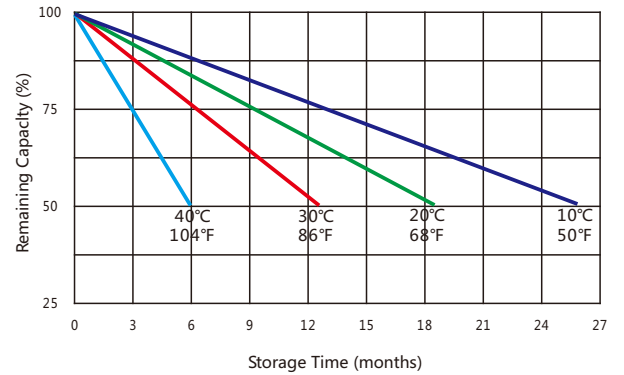
### Charging Characteristics@25°C(77°F)



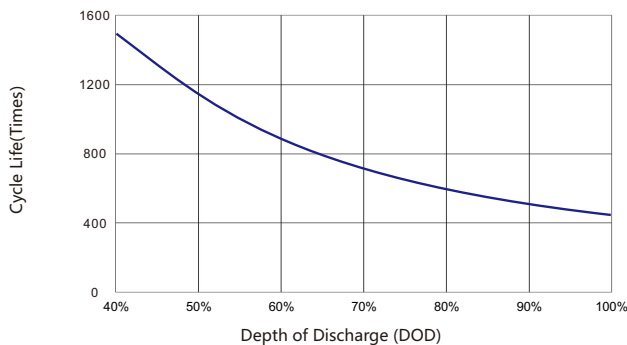
### Capacity vs Temperature



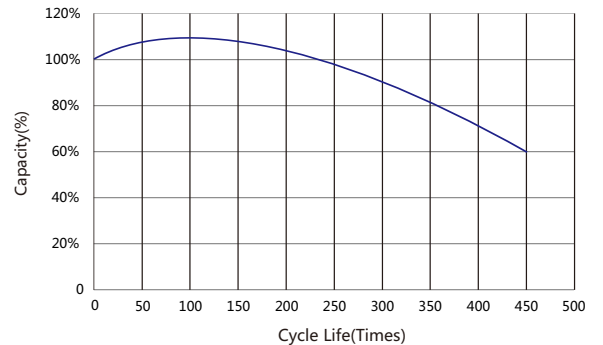
### Self-discharge vs Time



### Cycle Life vs Depth of Discharge@25°C(77°F)



### Cycle Life vs Remaining Capacity@25°C(77°F)



## Usage and Maintenance

Limited Current	Limited Voltage	Floating Voltage
Limited current : ≤0.12CA	14.75V~14.85V@25°C(77°F) Temp.Coefficient:-24mV/°C	13.7V~13.9V@25°C(77°F) Temp.Coefficient:-18mV/°C