

TN12-180 [12V 180Ah]

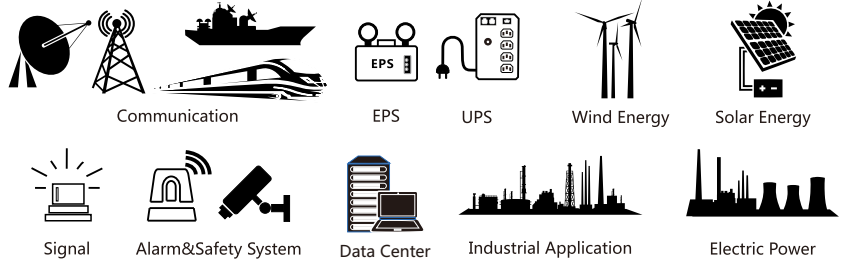


Product Features

| General Purpose (AGM) | | | | 6~10 years of design life@25°C |
|--|---|--|---|--------------------------------|
| 100% | ↑98% | ↑20% | ↓50% | |
| Model Coverage Both Cycle & Float Application | Capacity Retention High Purity Electrolyte | Charge Acceptance Special Negative Additive | Grid Corrosion Rare-earth patent alloy | |



Product Applications



Physical Specifications

| Model | Dimensions (mm/inch) | | | | Weight (kg/lbs) | Terminal | Container |
|----------|----------------------|----------|----------|--------------|-----------------|----------|---|
| TN12-180 | Length | Width | Height | Total Height | 53.3/117.5 | 17 | ABS UL94-HB (Optional: FR ABS UL94-V0) |
| | 532/20.9 | 207/8.15 | 220/8.66 | 225/8.86 | | | |

Product Specifications

| Nominal Voltage | Rated Capacity@25°C/77°F | Internal Resistance | Max. Discharge Current | Operating Temp. Range |
|-----------------|--|---------------------|------------------------|---|
| 12V | 190Ah 20hr Rate (1.80V/cell) 180Ah 10hr Rate (1.80V/cell) 158Ah 5hr Rate (1.75V/cell) 143Ah 3hr Rate (1.70V/cell) | 3mΩ@25°C/77°F | 1296A (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 | 354 | 281 | 244 | 211 | 161 | 122 | 101 | 60.5 | 44.2 | 35.1 | 29.6 | 25.9 | 20.9 | 17.5 | 9.36 |
| 1.80V/cell | 431 | 329 | 274 | 230 | 171 | 130 | 106 | 63.1 | 46.0 | 36.7 | 30.8 | 26.9 | 21.5 | 18.0 | 9.52 |
| 1.75V/cell | 500 | 361 | 298 | 244 | 180 | 136 | 110 | 64.7 | 47.1 | 37.4 | 31.5 | 27.5 | 22.0 | 18.4 | 9.72 |
| 1.70V/cell | 555 | 389 | 311 | 254 | 189 | 140 | 114 | 65.8 | 47.8 | 38.1 | 32.1 | 28.0 | 22.3 | 18.7 | 9.92 |
| 1.67V/cell | 585 | 411 | 324 | 264 | 196 | 144 | 117 | 67.2 | 48.5 | 38.8 | 32.6 | 28.3 | 22.5 | 19.0 | 10.1 |
| 1.60V/cell | 626 | 435 | 340 | 277 | 205 | 150 | 119 | 68.2 | 49.4 | 39.4 | 33.1 | 28.7 | 22.8 | 19.2 | 10.3 |

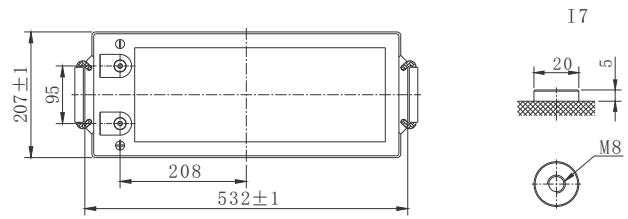
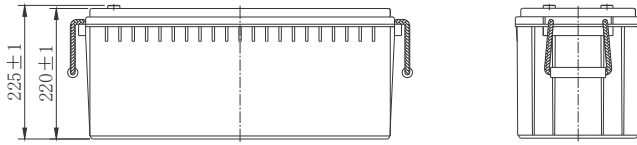
Constant Power Discharge (W/cell)@25°C (77°F)

| F.V/Time | 5min | 10min | 15min | 20min | 30min | 45min | 1h | 2h | 3h | 4h | 5h | 6h | 8h | 10h | 20h |
|------------|------|-------|-------|-------|-------|-------|-----|-----|------|------|------|------|------|------|------|
| 1.85V/cell | 659 | 532 | 469 | 410 | 317 | 242 | 202 | 122 | 89.4 | 71.3 | 60.4 | 53.0 | 42.8 | 36.0 | 19.3 |
| 1.80V/cell | 801 | 620 | 525 | 445 | 335 | 257 | 211 | 126 | 92.7 | 74.3 | 62.7 | 54.8 | 44.0 | 36.8 | 19.5 |
| 1.75V/cell | 927 | 680 | 568 | 471 | 353 | 268 | 219 | 129 | 94.5 | 75.5 | 63.9 | 56.0 | 44.8 | 37.6 | 19.9 |
| 1.70V/cell | 1028 | 731 | 591 | 487 | 369 | 276 | 225 | 131 | 95.7 | 76.8 | 64.8 | 56.6 | 45.4 | 38.1 | 20.2 |
| 1.67V/cell | 1080 | 768 | 613 | 505 | 380 | 284 | 230 | 133 | 96.8 | 77.9 | 65.7 | 57.2 | 45.7 | 38.5 | 20.5 |
| 1.60V/cell | 1152 | 809 | 642 | 528 | 397 | 292 | 234 | 135 | 98.3 | 78.7 | 66.5 | 57.7 | 46.0 | 38.9 | 20.9 |

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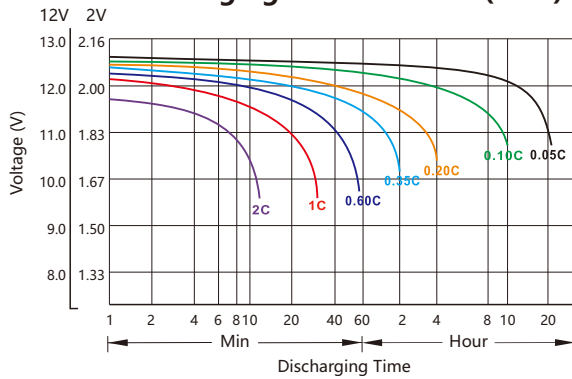


Battery Dimensions(mm)

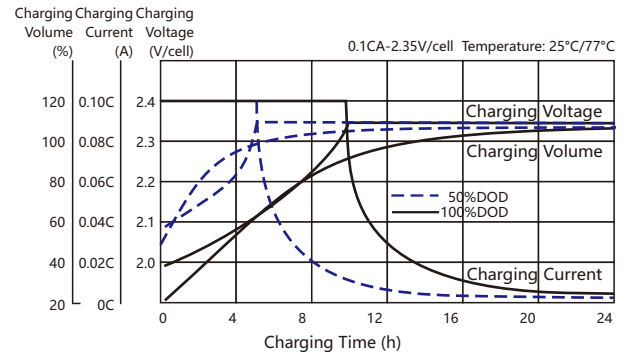


Electrical Characteristics

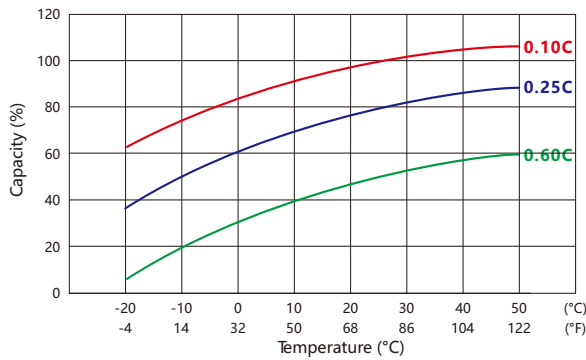
Discharging Characteristics(25°C)



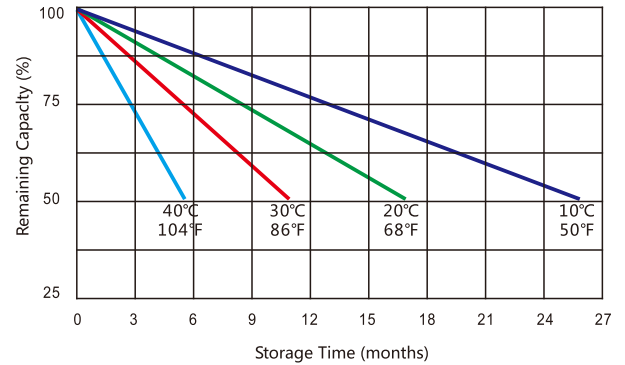
Charging Characteristics(25°C)



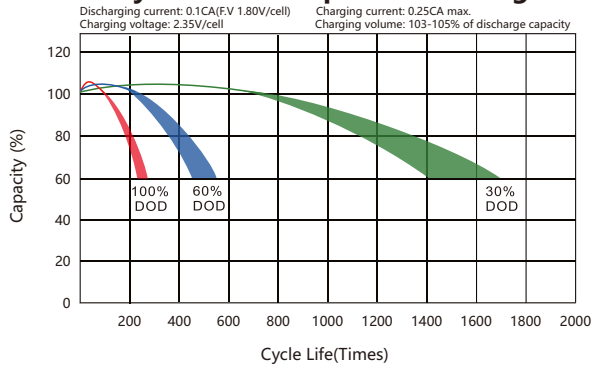
Capacity vs Temperature



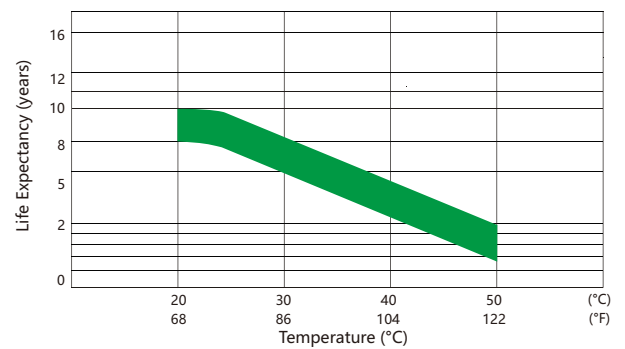
Self-discharge vs Time



Cycle Life vs Depth of Discharge



Floating Life vs Temperature



Usage and Maintenance

| Charge Current | Equalization Charge | Float Charge |
|---------------------------------------|--|--|
| Limited current : $\leq 0.25 C_{10}A$ | Constant Voltage: 14.1~14.4V@25°C(77°F) Temp.Coefficient:-24mV/°C | Constant Voltage: 13.5~13.8V@25°C(77°F) Temp.Coefficient:-18mV/°C |