



SPIRAL BATTERY SP12-55



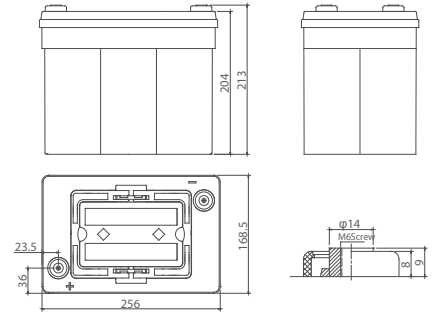
Main Applications

- ▶ UPS
- ▶ Communication station
- ▶ Solar energy storage
- ▶ Smart grid
- ▶ Different standby power supply

Benefits

- ▶ Applicable in $-45^{\circ}\text{C} \sim 75^{\circ}\text{C}$
- ▶ The cycle life of 100% DOD reaches more than 350 times
- ▶ The designed float life is 15 years
- ▶ The time of high rate discharge is two times more than ordinary battery

Dimensions



Technical Parameters

| | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nominal Voltage | 12 V |
| Capacity | 55Ah @ 20hr to 1.80 V per cell @ 25°C (77°F) |
| Weight | 18 kg (39.68 lbs) |
| Dimensions | Length:256 mm (10.08 in) Width:168.5 mm (6.63 in) Height:204 mm (8.03 in) Total height:213 mm (8.39 in) |
| Internal Resistance (full charged) | 2.9 mΩ |
| Short- circuit Current | 2251 A |
| Self Discharge @25°C(77°F) | Less than 8% after 90 days storage |
| Operating Temperature Range | Discharge: $-45^{\circ}\text{C} \sim 75^{\circ}\text{C}$ ($-49^{\circ}\text{F} \sim 167^{\circ}\text{F}$) Charge: $-20^{\circ}\text{C} \sim 50^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim 122^{\circ}\text{F}$) Storage: $-20^{\circ}\text{C} \sim 40^{\circ}\text{C}$ ($-4^{\circ}\text{F} \sim 104^{\circ}\text{F}$) |
| Recommended Operating Temperature | $15^{\circ}\text{C} \sim 35^{\circ}\text{C}$ |
| Recommended Charging Current | 5 A~20 A |
| Charging Voltage @25°C(77°F) | Float: 2.25 V/cell, Temps coefficient -3mV/ cell·°C Cycle: 2.40 V/cell |
| Terminal | M6 |
| Capacity Affected by Temperature(C_{10}) | 105% @ 40°C (104°F) 95% @ 0°C (32°F) 80% @ -20°C (-4°F) |

Certification

- ISO 9001
- ISO 14001
- ISO 18001

Technical Features

- ▶ With ultra-thin high purity lead frame design, a higher charge efficiency with trickle current is achieved
- ▶ With unique spiral wound design, the dehydration and bulging deformation of the battery are avoided in high-temperature
- ▶ Excellent fast charging performance, more than 95% of electricity is gained within 40 minutes
- ▶ Good battery consistency, available more strings in parallel



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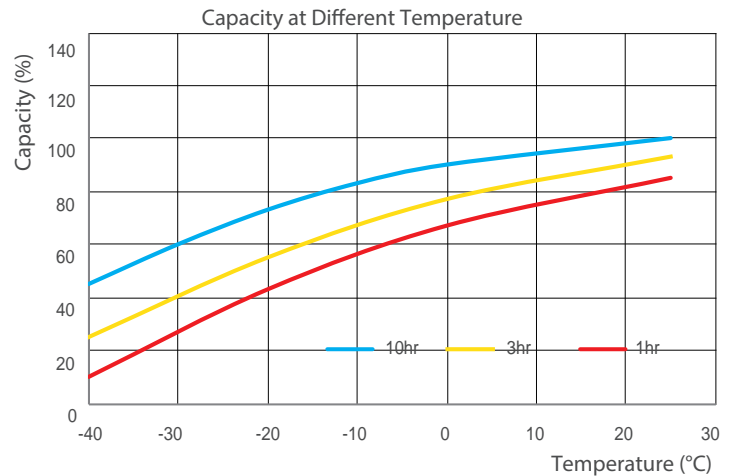
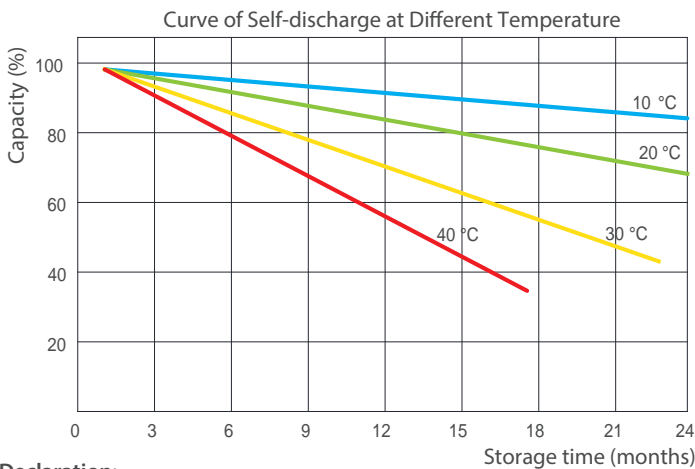
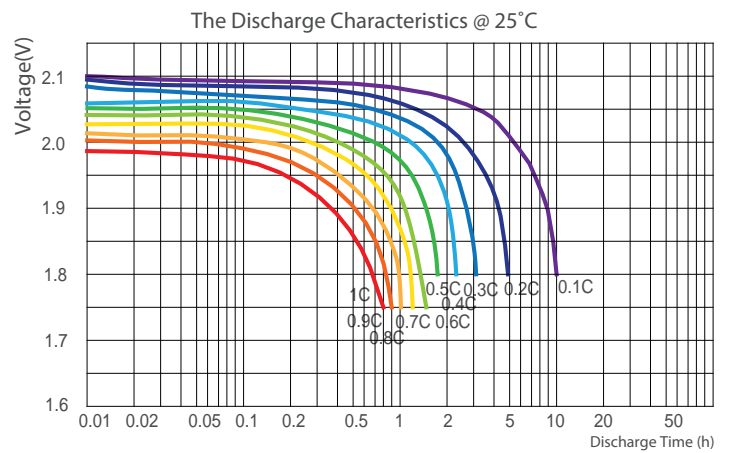
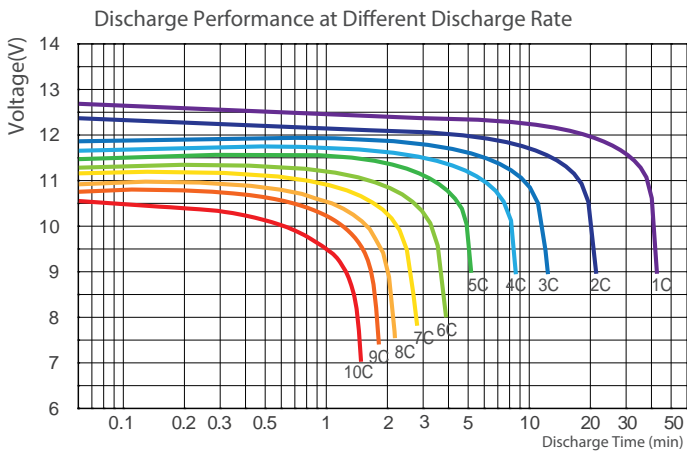
Constant Current Discharge Characteristics Unit: A (25°C, 77°F)

| F.V/Time | 2min | 5min | 10min | 15min | 20min | 30min | 45min | 1hr | 2hr | 3hr | 4hr | 5hr |
|----------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|-----|
| 1.85V | 260.0 | 188.7 | 126.7 | 98.0 | 83.0 | 63.5 | 44.5 | 36.3 | 21.1 | 13.8 | 9.8 | 8.1 |
| 1.75V | 353.3 | 237.3 | 153.3 | 120.0 | 89.1 | 66.2 | 47.0 | 38.3 | 21.4 | 14.9 | 11.3 | 8.8 |
| 1.65V | 412.0 | 260.0 | 165.3 | 123.3 | 94.1 | 70.1 | 49.1 | 39.0 | 21.8 | 15.3 | 11.3 | 8.9 |

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

| F.V/Time | 2min | 5min | 10min | 15min | 20min | 30min | 45min | 1hr | 2hr | 3hr | 4hr | 5hr |
|----------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| 1.85V | 483.3 | 361.1 | 250.0 | 190.0 | 163.3 | 117.9 | 87.8 | 73.9 | 40.9 | 26.8 | 19.3 | 16.0 |
| 1.75V | 611.1 | 436.1 | 298.9 | 222.2 | 183.3 | 129.0 | 94.4 | 75.6 | 41.0 | 28.9 | 21.9 | 17.4 |
| 1.65V | 705.6 | 477.8 | 305.6 | 227.4 | 186.7 | 132.1 | 95.6 | 76.7 | 41.4 | 29.5 | 22.1 | 17.5 |

Performance curve



*Declaration:

This information is generally descriptive only and is not intended to make or imply any representation, guarantee or warranty with respect to any cells and batteries. Cell and battery designs/specifications are subject to modification without notice.