



RT6120 (6V12Ah)

RT series is a general purpose battery with 5 years design life in float service. It meets with IEC and JIS standards. With up-dated AGM valve regulated technology and high purity raw materials, the RT series battery has reliable standby service life. It is suitable for UPS/EPS, medical equipment, emergency light and security systems applications.

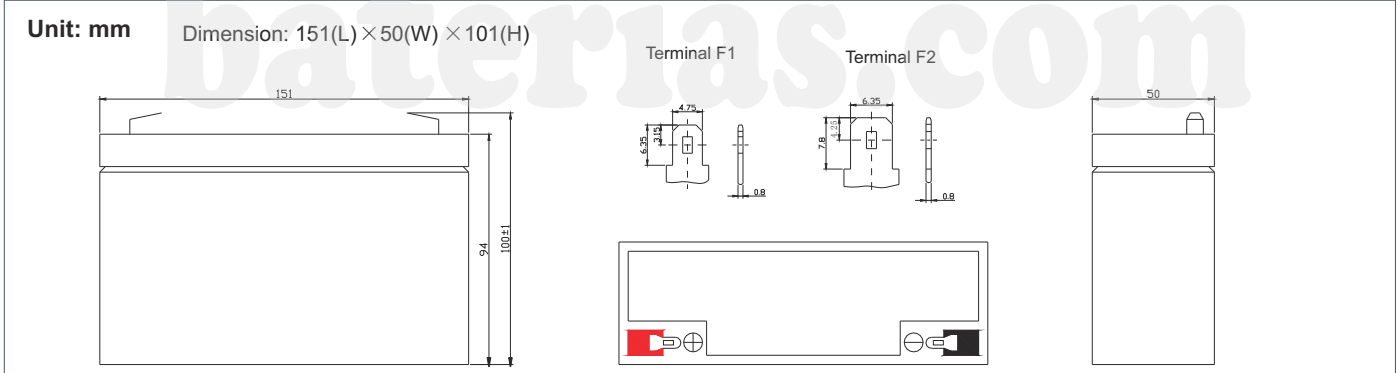


Specification

| | |
|--------------------------------------|---|
| Cells Per Unit | 3 |
| Voltage Per Unit | 6 |
| Capacity | 12Ah@20hr-rate to 1.75V per cell @25°C |
| Weight | Approx. 1.80 Kg (Tolerance ±4%) |
| Max. Discharge Current | 120 A (5 sec) |
| Internal Resistance | Approx. 10 mΩ |
| Operating Temperature Range | Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C |
| Normal Operating Temperature Range | 25°C ± 5°C |
| Float charging Voltage | 6.85 to 6.95 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current | 3.6 A |
| Equalization and Cycle Service | 7.3 to 7.4 VDC/unit Average at 25°C |
| Self Discharge | RITAR batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month |
| Terminal | Faston Tab 187(F1)/Faston Tab 250(F2) |
| Container Material | A.B.S. UL94-HB, UL94-V0 Optional. |



Dimensions



Constant Current Discharge Characteristics : A(25°C)

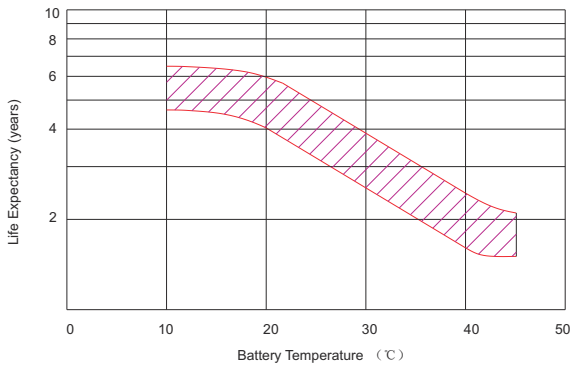
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 4.80V | 47.33 | 31.03 | 23.11 | 12.30 | 7.799 | 4.483 | 3.143 | 2.560 | 2.104 | 1.386 | 1.200 | 0.642 |
| 5.00V | 45.62 | 30.26 | 22.37 | 12.15 | 7.695 | 4.392 | 3.084 | 2.523 | 2.085 | 1.380 | 1.187 | 0.637 |
| 5.10V | 42.94 | 28.76 | 21.75 | 11.96 | 7.622 | 4.346 | 3.057 | 2.498 | 2.071 | 1.368 | 1.169 | 0.619 |
| 5.25V | 38.60 | 26.89 | 20.51 | 11.63 | 7.529 | 4.289 | 3.030 | 2.461 | 2.054 | 1.355 | 1.163 | 0.606 |
| 5.40V | 34.58 | 25.08 | 19.36 | 11.25 | 7.424 | 4.254 | 2.995 | 2.377 | 2.044 | 1.350 | 1.144 | 0.582 |
| 5.55V | 30.26 | 22.99 | 17.86 | 10.82 | 7.248 | 4.170 | 2.936 | 2.343 | 2.035 | 1.339 | 1.126 | 0.572 |

Constant Power Discharge Characteristics : W(25°C)

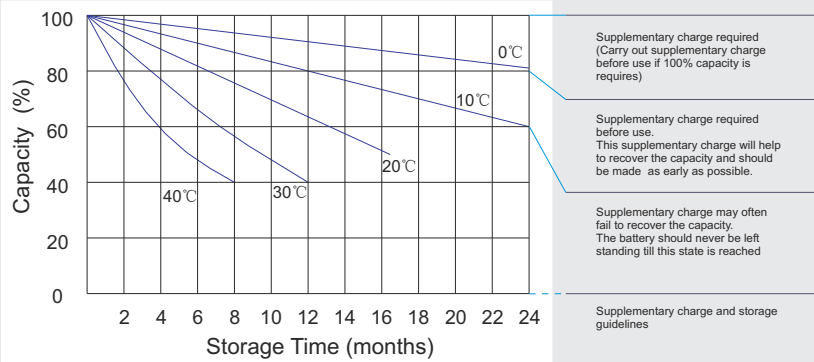
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 4.80V | 256.7 | 170.1 | 127.5 | 70.41 | 46.62 | 26.41 | 18.79 | 15.32 | 12.60 | 8.296 | 7.185 | 3.852 |
| 5.00V | 250.0 | 166.6 | 125.7 | 69.68 | 45.93 | 26.06 | 18.48 | 15.10 | 12.49 | 8.264 | 7.118 | 3.821 |
| 5.10V | 237.8 | 160.0 | 124.0 | 69.08 | 45.59 | 25.84 | 18.32 | 14.96 | 12.41 | 8.201 | 7.026 | 3.723 |
| 5.25V | 217.0 | 153.4 | 117.6 | 67.67 | 44.98 | 25.56 | 18.19 | 14.76 | 12.31 | 8.132 | 6.977 | 3.660 |
| 5.40V | 195.8 | 143.5 | 111.1 | 66.07 | 44.39 | 25.38 | 17.97 | 14.26 | 12.26 | 8.097 | 6.871 | 3.513 |
| 5.55V | 172.7 | 133.6 | 104.6 | 64.25 | 43.42 | 25.01 | 17.62 | 14.06 | 12.21 | 8.040 | 6.768 | 3.458 |

All mentioned values are average values (Tolerance ±2%).

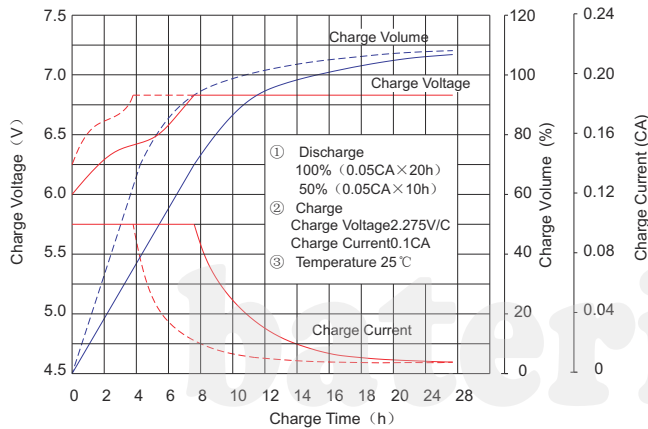
Effect of temperature on long term float life



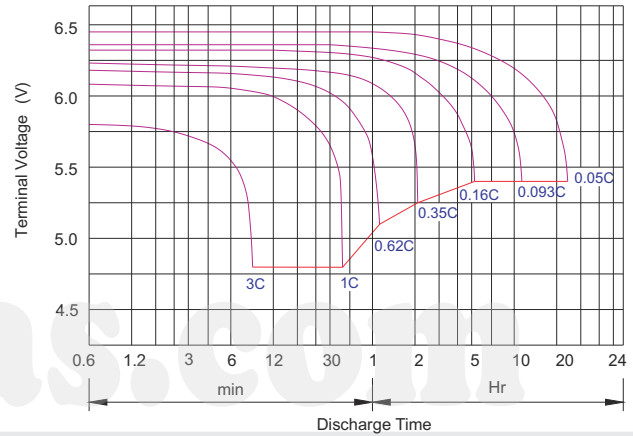
Storage characteristic



Charge characteristic Curve for standby use



Discharge characteristic Curve



Capacity Factors With Different Temperature

| Battery Type | | -20°C | -10°C | 0°C | 5°C | 10°C | 20°C | 25°C | 30°C | 40°C | 45°C |
|--------------|--------|-------|-------|-----|-----|------|------|------|------|------|------|
| GEL Battery | 6V&12V | 50% | 70% | 83% | 85% | 90% | 98% | 100% | 102% | 104% | 105% |
| | 2V | 60% | 75% | 85% | 88% | 92% | 99% | 100% | 103% | 105% | 106% |
| AGM Battery | 6V&12V | 46% | 66% | 76% | 83% | 90% | 98% | 100% | 103% | 107% | 109% |
| | 2V | 55% | 70% | 80% | 85% | 92% | 99% | 100% | 104% | 108% | 110% |

Discharge Current VS. Discharge Voltage

| Final Discharge Voltage V /cell | 1.75V | 1.70V | 1.60V |
|---------------------------------|------------|-------------------|------------|
| Discharge Current (A) | (A) ≤ 0.2C | 0.2C < (A) < 1.0C | (A) ≥ 1.0C |

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

| | |
|------------------|---|
| Constant Voltage | -0.2Cx2h+7.2-7.35Vx24h, Max. Current 0.3C |
| Constant Current | -0.2Cx2h+0.1Cx12h |
| Fast | -0.2Cx2h+0.3Cx4h |

| Bolt | M5 | M6 | M8 |
|----------|-----------------------|------------------|-----------------------|
| Terminal | F3 F4 F13 F18 T25 T26 | F8 F11 F12-1 F15 | F5 F9 F10 F12 F14 F16 |
| Torque | 6-7N-m | 8-10N-m | 10-12N-m |

Maintenance & Cautions

Float Service:

- ※ Every month, recommend inspection every battery voltage.
- ※ Every three months, recommend equalization charge for one time.

Equalization charge method:

Discharge: 100% rate capacity discharge.

Charge: Max. current 0.3CA, constant voltage 7.2-7.35V charge 24h.

※ Effect of temperature on float charge voltage: -3mV/°C/Cell.

※ Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.