



RT1213 (12V1.3Ah)

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.

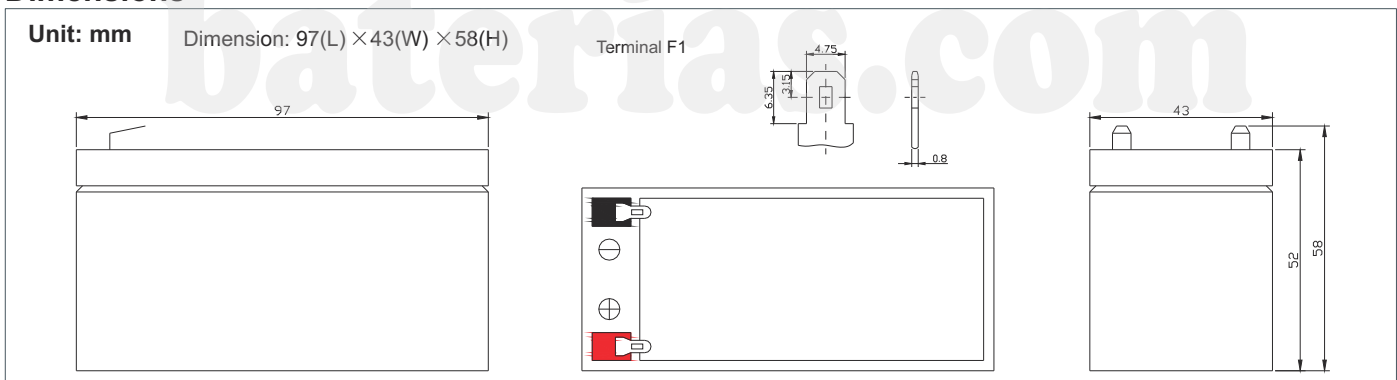


Specification

| | |
|--------------------------------------|---|
| Cells Per Unit | 6 |
| Voltage Per Unit | 12 |
| Capacity | 1.3Ah@20hr-rate to 1.75V per cell @25°C |
| Weight | Approx. 0.6 Kg(Tolerance±5%) |
| Max. Discharge Current | 13 A (5 sec) |
| Internal Resistance | Approx. 95 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 | 13.7 to 13.9 VDC/unit Average at 25°C |
| Recommended Maximum Charging Current | 0.39 A |
| Equalization and Cycle Service | 14.6 to 14.8 VDC/unit Average at 25°C |
| Self Discharge | RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using. |
| Terminal | Faston Tab 187(F1) |
| Constrainer Material | A.B.S. UL94-HB, UL94-V0 Optional. |



Dimensions



Constant Current Discharge Characteristics : A(25°C)

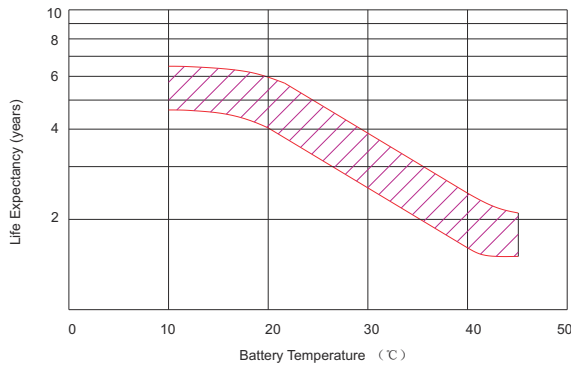
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 5.127 | 3.362 | 2.504 | 1.333 | 0.845 | 0.486 | 0.340 | 0.277 | 0.228 | 0.150 | 0.130 | 0.070 |
| 10.0V | 4.942 | 3.278 | 2.424 | 1.316 | 0.834 | 0.476 | 0.334 | 0.273 | 0.226 | 0.150 | 0.129 | 0.069 |
| 10.2V | 4.652 | 3.115 | 2.356 | 1.296 | 0.826 | 0.471 | 0.331 | 0.271 | 0.224 | 0.148 | 0.127 | 0.067 |
| 10.5V | 4.182 | 2.913 | 2.222 | 1.260 | 0.816 | 0.465 | 0.328 | 0.267 | 0.223 | 0.147 | 0.126 | 0.066 |
| 10.8V | 3.747 | 2.717 | 2.097 | 1.218 | 0.804 | 0.461 | 0.324 | 0.257 | 0.221 | 0.146 | 0.124 | 0.063 |
| 11.1V | 3.278 | 2.491 | 1.934 | 1.172 | 0.785 | 0.452 | 0.318 | 0.254 | 0.220 | 0.145 | 0.122 | 0.062 |

Constant Power Discharge Characteristics : W(25°C)

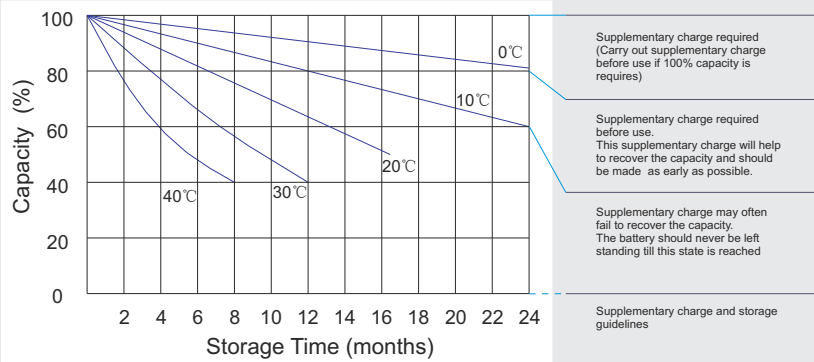
| F.V/Time | 5MIN | 10MIN | 15MIN | 30MIN | 1HR | 2HR | 3HR | 4HR | 5HR | 8HR | 10HR | 20HR |
|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 9.60V | 55.61 | 36.86 | 27.63 | 15.26 | 10.10 | 5.723 | 4.070 | 3.319 | 2.730 | 1.797 | 1.557 | 0.835 |
| 10.0V | 54.16 | 36.10 | 27.23 | 15.10 | 9.95 | 5.647 | 4.004 | 3.272 | 2.706 | 1.790 | 1.542 | 0.828 |
| 10.2V | 51.52 | 34.67 | 26.87 | 14.97 | 9.88 | 5.598 | 3.970 | 3.242 | 2.689 | 1.777 | 1.522 | 0.807 |
| 10.5V | 47.02 | 33.24 | 25.47 | 14.66 | 9.75 | 5.538 | 3.940 | 3.198 | 2.668 | 1.762 | 1.512 | 0.793 |
| 10.8V | 42.42 | 31.09 | 24.07 | 14.31 | 9.619 | 5.498 | 3.894 | 3.090 | 2.655 | 1.754 | 1.489 | 0.761 |
| 11.1V | 37.41 | 28.95 | 22.67 | 13.92 | 9.407 | 5.419 | 3.818 | 3.046 | 2.646 | 1.742 | 1.467 | 0.749 |

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

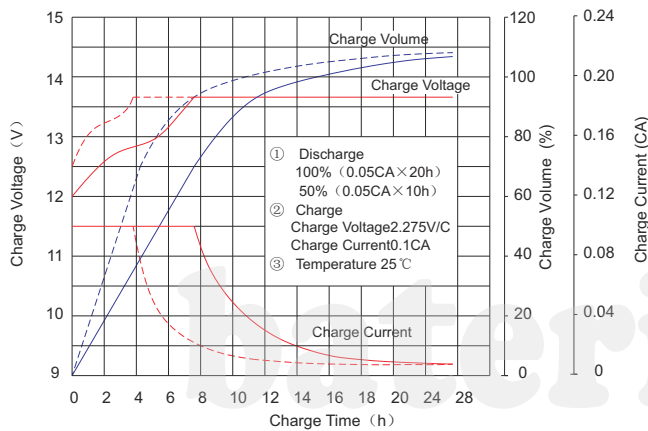
Effect of temperature on long term float life



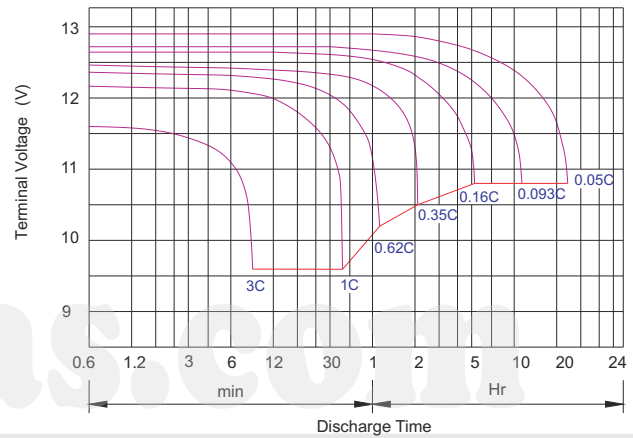
Storage characteristic



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+14.4-14.7Vx24h, 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 14.4-14.7V 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.