



# RA12-33(12V33Ah)

## Specification



RA series is a general purpose battery with 12 years design life in float service. It meets with IEC, JIS, BS, GB/T and YD/T standards. With advanced AGM valve regulated technology and high purity raw material, the RA series battery maintains high consistency for better performance and reliable standby service life. It is suitable for UPS/EPS, Telecom, power grid, medical equipment, emergency light and security system applications.



<b>Cells Per Unit</b>	6
<b>Voltage Per Unit</b>	12
<b>Nominal Capacity</b>	33Ah@10hour-rate to 1.80V per cell @25°C
<b>Weight</b>	Approx. 9.6 Kg (Tolerance ±3.0%)
<b>Internal Resistance</b>	Approx. 12 mΩ
<b>Terminal</b>	F7(M8)/F11(M6)
<b>Max. Discharge Current</b>	330A (5 sec)
<b>Short Circuit Current</b>	825A
<b>Design Life</b>	12 years (Float charging)
<b>Max. Charging Current</b>	9.9 A
<b>Reference Capacity</b>	C3 25.5AH C5 28.8AH C10 33.0AH C20 35.0AH
<b>Standby Use Voltage</b>	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
<b>Cycle Use Voltage</b>	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
<b>Operating Temperature Range</b>	Discharge: -20°C~60°C Charge: 0°C~50°C Storage: -20°C~60°C
<b>Normal Operating Temperature Range</b>	25°C ±5°C
<b>Self Discharge</b>	RITAR Valve Regulated Lead Acid (VRLA) batteries can be stored for up to 6 months at 25°C and then recharging is recommended. Monthly Self-discharge ratio is less than 3% at 25°C. Please charge batteries before using.
<b>Container Material</b>	A.B.S. UL94-HB, UL94-V0 Optional.

## Dimensions

Length	195±2mm (7.68 inches)
Width	130±2mm (5.12 inches)
Height	155±2mm (6.10 inches)
Total Height	168±2mm (6.61 inches)
Terminal	Value
M5	6~7 N*m
M6	8~10 N*m
M8	10~12 N*m

Unit: mm

### Constant Current Discharge Characteristics : A (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	105.7	80.5	61.2	36.1	20.2	12.0	9.31	7.32	6.23	4.18	3.48	1.82
1.65V	101.9	76.1	58.5	34.7	19.5	11.6	9.02	7.12	6.06	4.14	3.44	1.79
1.70V	96.9	70.1	54.8	33.2	18.8	11.2	8.78	6.92	5.91	4.07	3.39	1.77
1.75V	90.5	64.1	51.0	31.7	18.1	10.9	8.51	6.75	5.76	4.02	3.34	1.75
1.80V	82.5	58.1	47.1	30.3	17.5	10.5	8.25	6.55	5.61	3.95	3.30	1.73
1.85V	72.6	47.4	39.1	26.1	15.7	9.59	7.63	6.09	5.23	3.71	3.11	1.64

### Constant Power Discharge Characteristics : WPC (25°C)

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	182.0	136.9	107.0	65.6	37.9	22.8	17.8	14.0	12.0	8.17	6.84	3.59
1.65V	180.0	131.9	103.8	63.7	36.8	22.1	17.3	13.7	11.7	8.10	6.77	3.53
1.70V	173.2	123.6	98.6	61.5	35.8	21.5	16.9	13.4	11.5	7.99	6.68	3.50
1.75V	164.7	115.2	93.1	59.4	34.7	20.9	16.5	13.1	11.2	7.89	6.60	3.46
1.80V	152.7	106.1	87.2	57.3	33.6	20.2	16.0	12.8	11.0	7.78	6.52	3.43
1.85V	136.7	88.3	73.4	49.8	30.3	18.6	14.9	11.9	10.3	7.32	6.15	3.26

(Note) The above characteristics data are average values obtained within three charge/discharge cycle not the minimum values. The battery must be fully charged before the capacity test. The C<sub>10</sub> should reach 95% after the first cycle and 100% after the third cycle.

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## Discharge Characteristics Curve



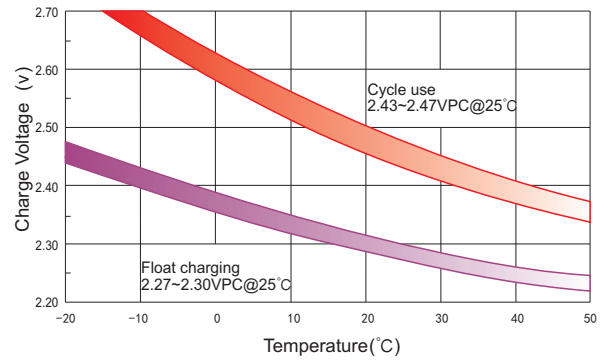
## Charge Characteristic Curve For Standby Use



## Cycle Life In Relation To Depth Of Discharge



## Relationship Between Charging Voltage And Temperature



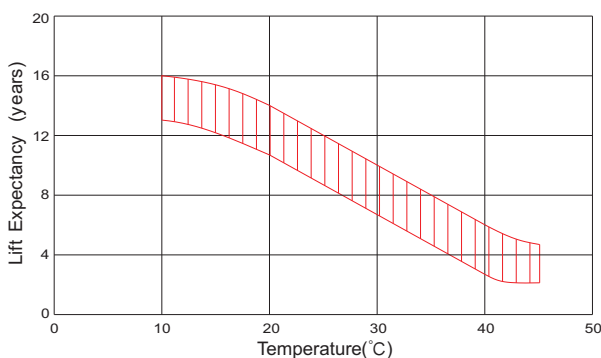
## Temperature Effects On Capacity



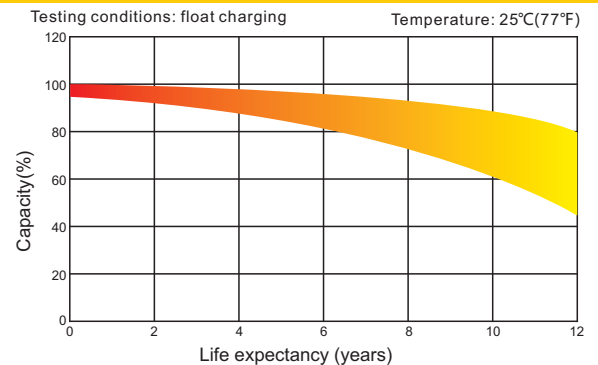
## Storage Characteristics



## Effect Of Temperature On Long Term Life



## Life Characteristics Of Standby Use



(Note) All above information shall be changed without prior notice, Ritar reserves the right to explain and update the latest information.