



# RA12-45(12V45Ah)

## Specification

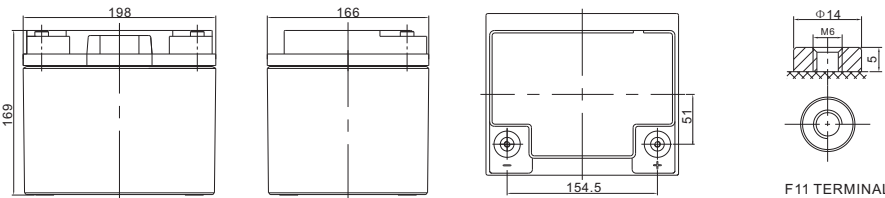


RA series is a general purpose battery with 12 years design life in float service. It meets with IEC, JIS, BS, GB/T and YD/T standards. With advanced AGM valve regulated technology and high purity raw material, the RA series battery maintains high consistency for better performance and reliable standby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



Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	45Ah@10hour-rate to 1.80V per cell @25°C
Weight	Approx. 12.5 Kg (Tolerance ±3.0%)
Internal Resistance	Approx. 9.0 mΩ
Terminal	F4(M5)/F11(M6)
Max. Discharge Current	450A (5 sec)
Short Circuit Current	1050A
Design Life	12 years (Float charging)
Max. Charging Current	13.5 A
Reference Capacity	C3 34.8AH C5 39.3AH C10 45.0AH C20 47.6AH
Standby Use Voltage	13.6 V~13.8 V @ 25°C Temperature Compensation: -3mV/°C/Cell
Cycle Use Voltage	14.6 V~14.8 V @ 25°C Temperature Compensation: -4mV/°C/Cell
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
Self Discharge	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.
Container Material	A.B.S. UL94-HB, UL94-V0 Optional.

## Dimensions



Length	198±2mm (7.80 inches)
Width	166±2mm (6.54 inches)
Height	169±2mm (6.65 inches)
Total Height	169±2mm (6.65 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	144.2	109.8	83.4	49.3	27.5	16.4	12.7	9.98	8.49	5.71	4.75	2.48
1.65V	139.0	103.8	79.8	47.3	26.6	15.9	12.3	9.71	8.27	5.64	4.69	2.44
1.70V	132.2	95.5	74.7	45.2	25.7	15.3	12.0	9.44	8.05	5.55	4.62	2.41
1.75V	123.5	87.5	69.5	43.2	24.7	14.8	11.6	9.20	7.85	5.48	4.56	2.38
1.80V	112.5	79.2	64.2	41.3	23.8	14.3	11.3	8.94	7.65	5.38	4.50	2.36
1.85V	99.0	64.7	53.3	35.6	21.3	13.1	10.4	8.31	7.13	5.05	4.24	2.24

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

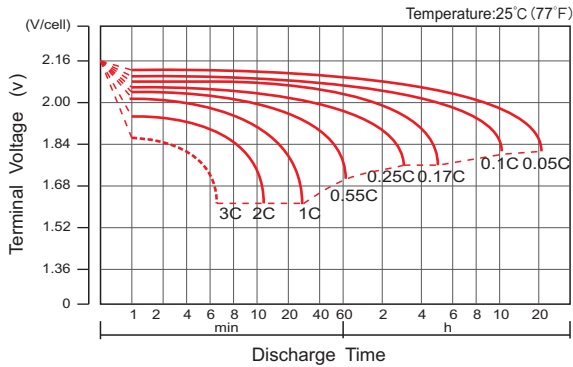
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	248.1	186.7	145.9	89.5	51.7	31.0	24.2	19.2	16.4	11.1	9.33	4.89
1.65V	245.5	179.8	141.5	86.8	50.2	30.2	23.6	18.7	16.0	11.0	9.23	4.82
1.70V	236.1	168.6	134.5	83.8	48.9	29.4	23.1	18.3	15.6	10.9	9.10	4.77
1.75V	224.6	157.1	127.0	80.9	47.4	28.5	22.5	17.9	15.3	10.8	9.00	4.71
1.80V	208.2	144.7	118.9	78.1	45.8	27.6	21.9	17.4	15.0	10.6	8.89	4.67
1.85V	186.5	120.3	100.1	68.0	41.3	25.4	20.3	16.2	14.0	9.98	8.38	4.44

(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.

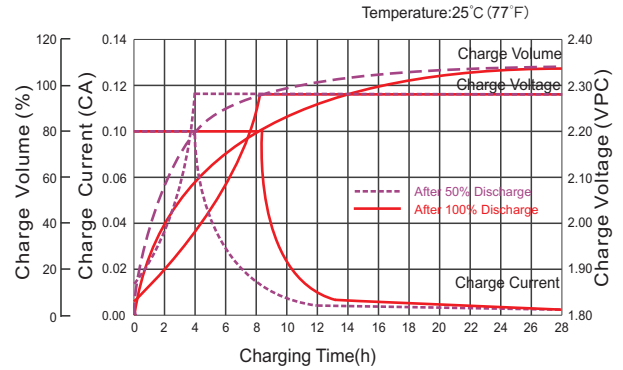
# RA12-45(12V45Ah)



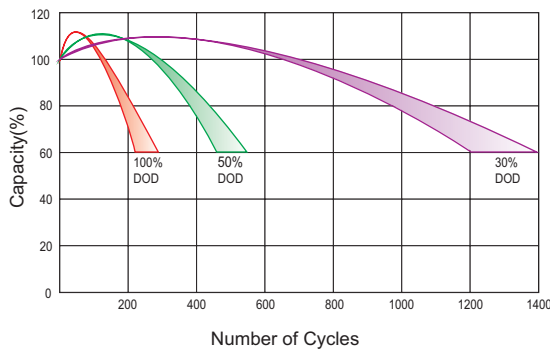
## Discharge Characteristics Curve



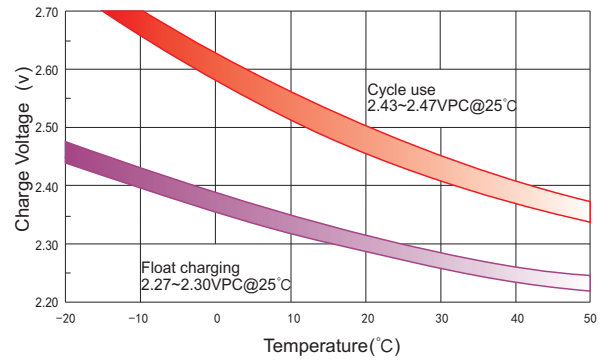
## Charge Characteristic Curve For Standby Use



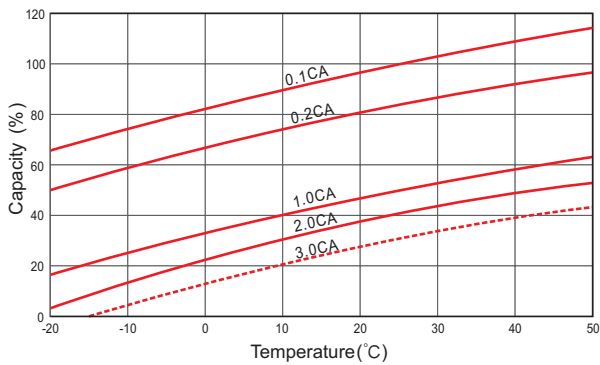
## Cycle Life In Relation To Depth Of Discharge



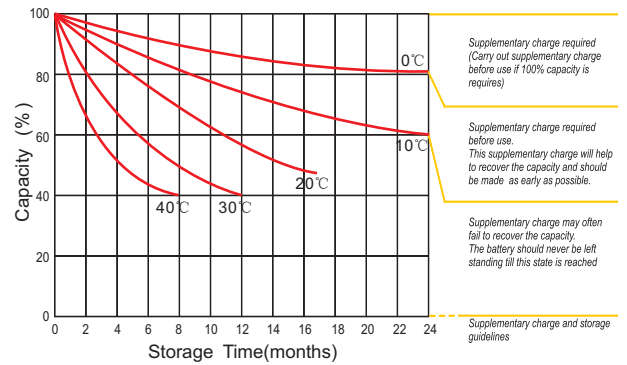
## Relationship Between Charging Voltage And Temperature



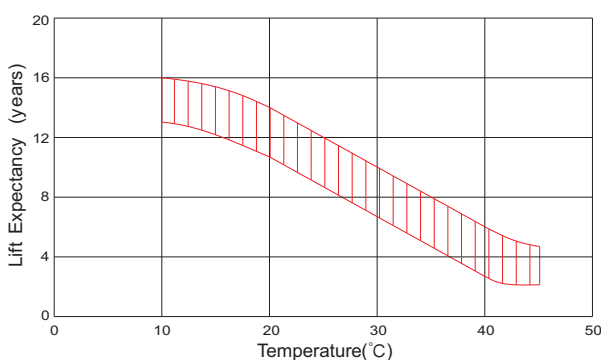
## Temperature Effects On Capacity



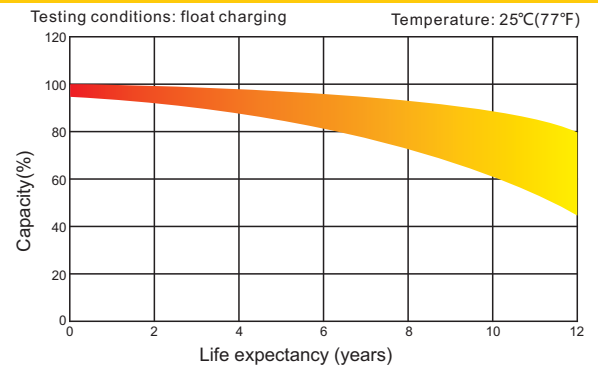
## Storage Characteristics



## 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.