



# National Fire Equipment Ltd.

## Model BAT12V40A - 12 Volt - 40 AMP General Purpose Battery

### Specification

Cells Per Unit	6
Voltage Per Unit	12
Nominal Capacity	40Ah@10hour-rate to 1.80V per cell @25°C
Weight	Approx. 12.4 Kg (Tolerance±3.0%)
Internal Resistance	Approx. 8.0 mΩ
Terminal	F4(M6)/F11(M6)
Max. Discharge Current	400A (5 sec)
Short Circuit Current	920A
Design Life	12 years (Float charging)
Recommended Maximum Charging Current	12 A
Reference Capacity	C3 31.0AH C5 35.8AH C10 40.0AH C20 42.2AH
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	RT 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.



RA series is a general purpose battery with 12 years design life in float service. It meets with IEC, JIS, BS and YDT 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.



### 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

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	136.1	96.3	72.5	42.0	24.9	14.9	10.9	8.89	7.50	5.01	4.26	2.19
1.65V	131.2	93.4	70.6	41.0	24.4	14.7	10.8	8.78	7.42	4.96	4.22	2.17
1.70V	124.8	89.7	68.1	39.8	23.8	14.4	10.6	8.63	7.30	4.90	4.17	2.15
1.75V	116.6	84.8	64.9	38.2	23.0	14.0	10.3	8.44	7.15	4.81	4.10	2.11
1.80V	106.2	78.6	60.7	36.2	22.0	13.5	10.0	8.18	6.95	4.69	4.00	2.07
1.85V	93.5	70.8	55.4	33.5	20.6	12.9	9.57	7.84	6.68	4.53	3.88	2.02

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

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
1.60V	234.3	166.1	128.7	77.4	47.2	28.7	21.2	17.3	14.7	9.94	8.51	4.37
1.65V	231.9	165.5	127.9	76.8	46.8	28.5	21.1	17.2	14.6	9.87	8.44	4.34
1.70V	223.0	160.6	124.5	74.9	45.8	28.0	20.7	16.9	14.4	9.75	8.34	4.30
1.75V	212.1	154.6	120.3	72.7	44.5	27.4	20.3	16.6	14.1	9.59	8.21	4.24
1.80V	196.6	145.7	114.1	69.4	42.7	26.5	19.7	16.2	13.8	9.37	8.03	4.17
1.85V	176.1	133.6	105.7	65.0	40.3	25.4	18.9	15.6	13.3	9.08	7.79	4.06



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TORONTO: (905) 761-6355  
Toll Free: (800) 267-8508

OTTAWA: (613) 723-6071

VANCOUVER: (604) 420-1131  
Toll Free: (800)-667-2138

BURNABY: (604)-299-4498

EDMONTON: (780) 455-3870  
Toll Free: (888)-891-1008

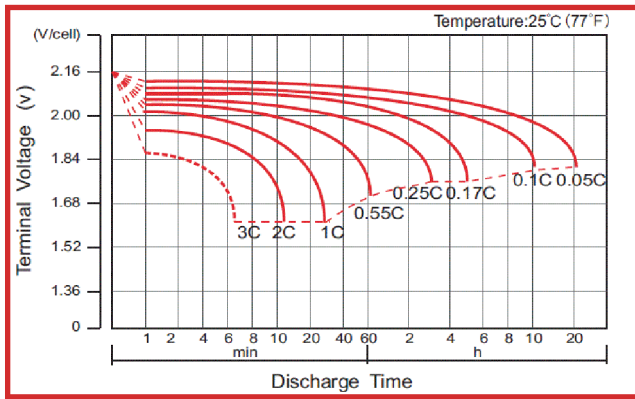
CALGARY: (403) 236-5661

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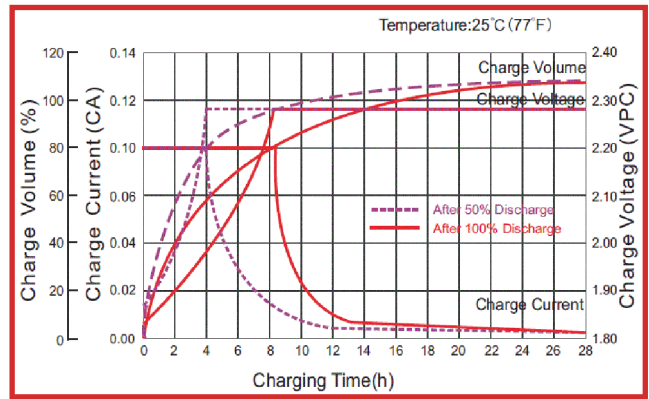
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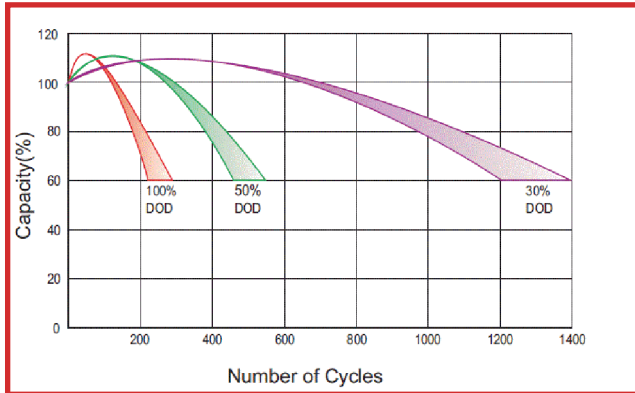
### Discharge Characteristics Curve Charge



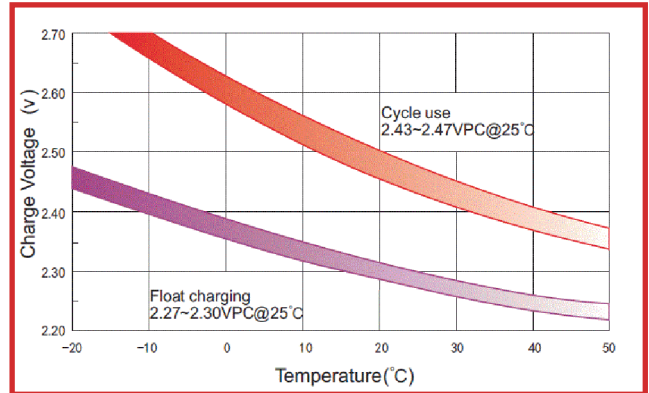
### Charge Characteristic Curve For Standby Use



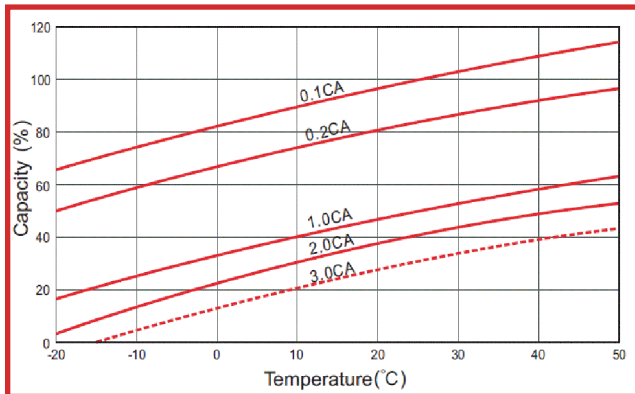
### Cycle Life In Relation To Depth Of Discharge



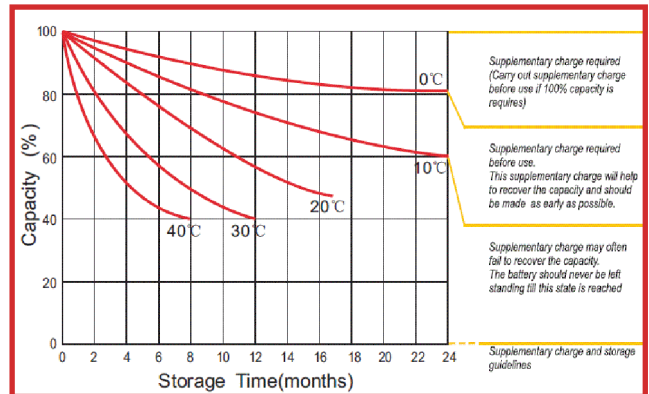
### Relationship Between Charging Voltage And Temperature



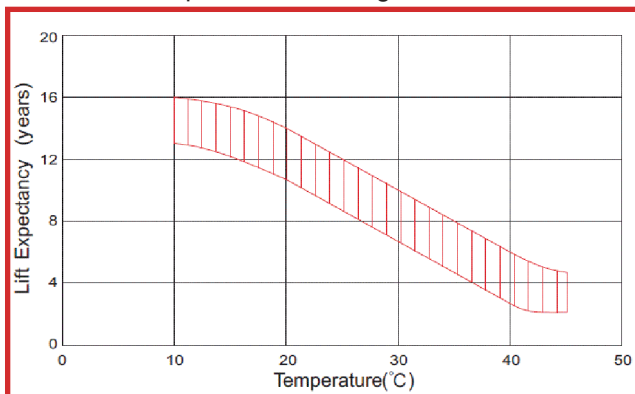
### Temperature Effects On Capacity



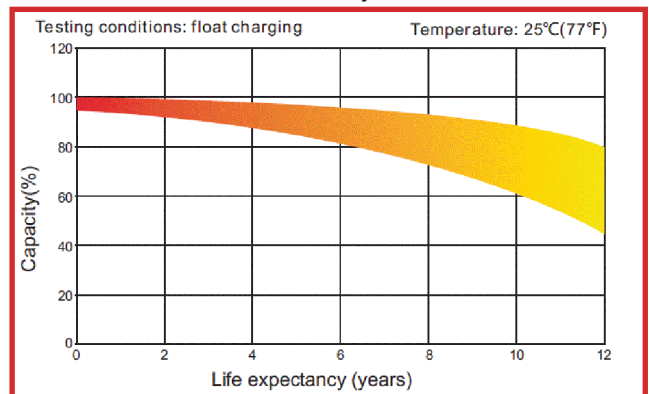
### Storage Characteristics



### Effect Of Temperature On Long Term Life



### Life Characteristics Of Standby Use



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