



# SMARTRONICS

MH61491

## 12-3H

## 12V 3Ah

Valve Regulated Lead Acid Battery / AGM Technology

### Specifications

**Nominal Voltage(V)** 12V

#### Nominal Capacity

20 hr rate	(0.15A to 1.75V/cell,25°C (77°F))	3AH
10 hr rate	(0.285A to 1.75V/cell,25°C (77°F))	2.85AH
5 hr rate	(0.51A to 1.70V/cell,25°C (77°F))	2.55AH
3C	(9A to 1.60V/cell,25°C (77°F))	1.05AH
1C	(3A to 1.60V/cell,25°C (77°F))	1.60AH

**Weight** Approx. 1.35 kg (2.86lbs)

**Internal Resistance** Approx. 45mΩ

**Maximum Discharge Current** 45A (5sec)

#### Charging Methods at 25°C (77°F)

##### Cycle use:

Initial Charging Current less than	0.9 A
Charging Voltage	14.4V~15.0
Coefficient	-30mV/°C

##### Standby use:

No limit on Initial Charging Current Voltage	
Charging Voltage	13.5V~13.8V
Coefficient	-20mV/°C

#### Operating Temperature Range

Charge	-15~40°C (5~104°F)
Discharge	-15~50°C (5~122°F)
Storage	-15~40°C (5~104°F)
Case Material	ABS UL94 HB
Terminal	F1 or F2(Fasten Tab 187or 250)

#### Description of torque value of hard ware for the terminals

Recommended torque value	M6: 7 N-m (71kgf-cm)
Maximum allowable torque value	M6: 9 N-m (92kgf-cm)

#### Self-Discharge

This series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.



P# 12-3H 204

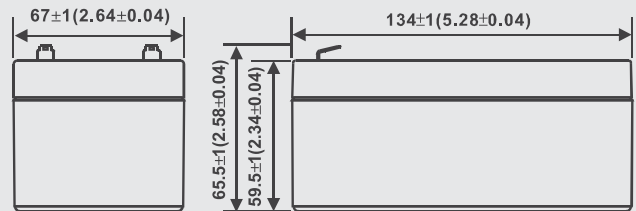
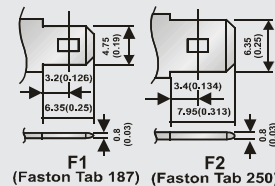
\*H: High performance series

### For: Backup Power i.e. UPS, ...

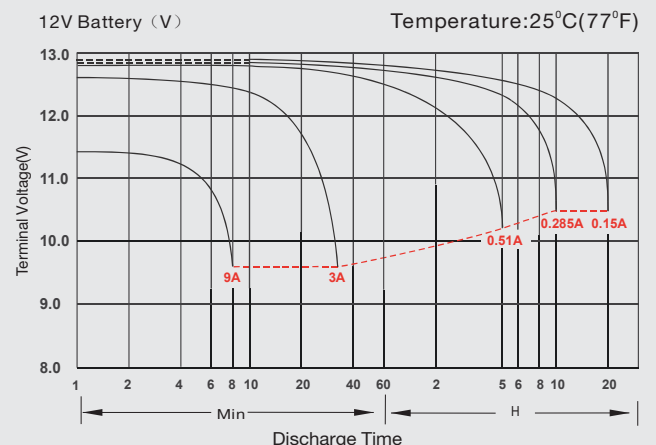
### Design life:

### 3-5 years (Ambient Temperature 20°C)

### Dimensions



### Discharge Characteristics



**Constant Current Discharge (Amperes) at 25 °C (77°F)**

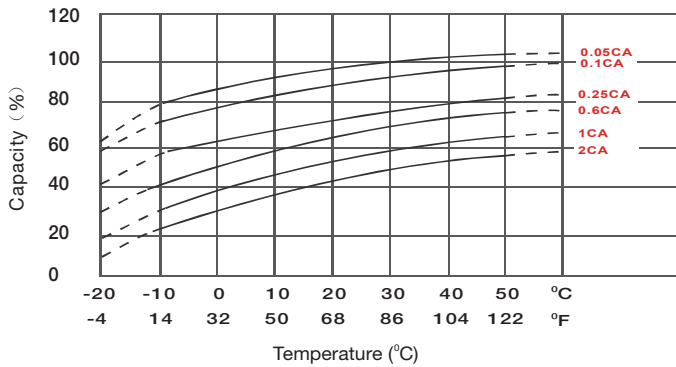
F.V (V/cell)	Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
1.85	7.95	5.87	4.49	2.56	1.54	0.945	0.679	0.556	0.472	0.273	0.147	
1.80	9.24	6.52	5.03	2.87	1.72	0.993	0.718	0.581	0.493	0.289	0.154	
1.75	10.3	7.07	5.37	3.03	1.81	1.04	0.752	0.604	0.511	0.301	0.158	
1.70	11.1	7.46	5.71	3.10	1.88	1.08	0.786	0.625	0.526	0.306	0.161	
1.65	12.0	7.79	6.02	3.14	1.94	1.12	0.826	0.646	0.542	0.311	0.165	
1.60	12.6	8.08	6.23	3.17	1.99	1.15	0.861	0.663	0.554	0.313	0.167	

**Constant Power Discharge (Watts/cell) at 25 °C (77°F)**

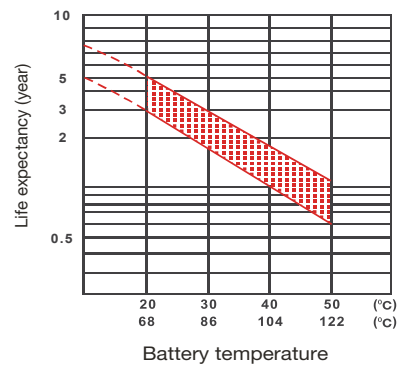
F.V (V/cell)	Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
1.85	15.7	11.4	8.63	5.03	2.88	1.70	1.27	0.968	0.823	0.547	0.299	
1.80	17.7	12.4	9.61	5.51	3.20	1.85	1.46	1.09	0.926	0.582	0.309	
1.75	19.0	13.3	10.1	5.82	3.43	1.98	1.56	1.17	0.994	0.597	0.317	
1.70	20.2	14.0	10.6	6.18	3.63	2.12	1.63	1.21	1.03	0.608	0.320	
1.65	21.4	14.7	11.2	6.43	3.76	2.25	1.70	1.27	1.07	0.620	0.324	
1.60	22.1	15.0	11.5	6.53	3.88	2.35	1.77	1.33	1.10	0.628	0.330	

Specifications subject to change without notice.

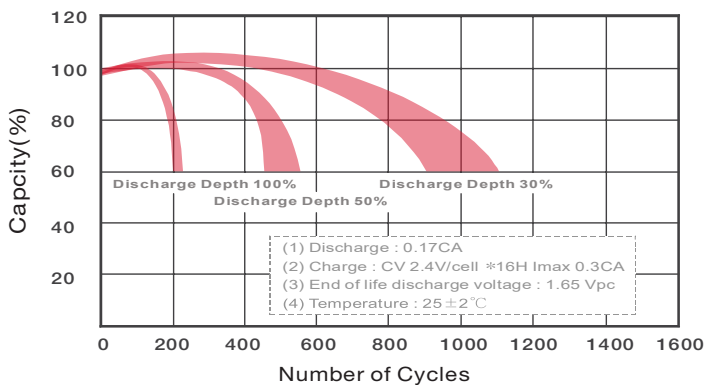
**Temperature Effects in Relation to Battery Capacity**



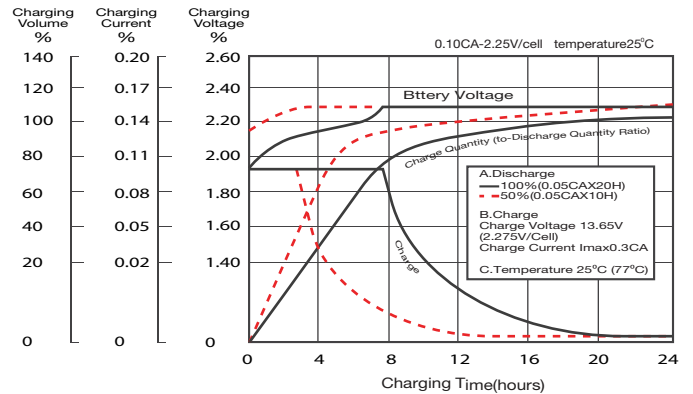
**Effect of Temperature on Long Term Float Life**



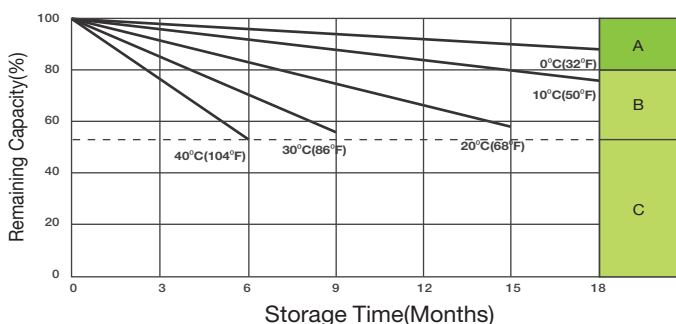
**Cycle Life in Relation to Depth of Discharge**



**Float Charging Characteristics**



**Self Discharge Characteristics**



- A** No supplementary charge required (Carry out supplementary charge before use if 100% capacity is required.)
- B** Supplementary charge required before use. Optional charging way as below:
  1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
  2. Charged for above 20hours at limited current 0.25CA and constant voltage 2.45V/cell.
  3. Charged for 8~10hours at limited current 0.05CA.
- C** Supplementary charge may often fail to recover the capacity. The battery should never be left standing till this is reached.