

# AP12-55-GXD

## High Temperature Gel Battery

### Datasheet



The AP12-55-GXD is a gel battery with 12-year design life designed for frequent deep cycling and for high temperature applications. The battery is made with a heavy duty Calcium Tin alloy as well as double thickness of plates; the plates are made of a special alloy designed to reduce corrosion thus resulting in the long battery life. These features also mean that batteries will operate safely and reliably in high temperature and outdoor applications.

The AP12-55-GXD comes with 3 years warranty provided it is installed and have been having regular maintenance in accordance with manufacturer recommendation and specification.

#### Key features include:

- High temperature outdoor battery
- Gel Technology
- ABS case, Flame Retardant V0 is available
- Stable quality and high reliability
- Maintenance-free operation
- 12 years design time at 25°C

#### Applications include:

- Solar and wind system
- UPS
- Fire alarm and security systems
- Auto control system
- Communication power supply
- Telecommunication system
- DC power supply

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Power Systems

## Product Specifications

Model	AP12-55-GXD
Nominal Voltage	12V <sub>DC</sub> (6 cells)
Nominal Capacity @25°C	58Ah (20hr 1.80V/cell) 55Ah (10hr 1.80V/cell) 47Ah (5hr 1.75V/cell) 33Ah (1hr 1.60V/cell)
Dimension	Length 228 ± 2mm Width 137 ± 2mm Container Height 210 ± 2mm Total Height 214 ± 2mm
Weight	Approx. 17kg
Terminal	T3 or F5
Container Material	ABS
Max. Discharge Current	600A (5S)
Internal Resistance	Approx. 8mΩ
Operating Temperature Range	Discharge -15 – 50°C Charge 0 – 40°C Storage -15 – 40°C
Nominal Operating Temperature Range	25 ± 3°C
Cycle Use	14.4 – 14.8V @ 25°C Temp. Coefficient -30mV/°C Initial Charging Current < 16.5A
Standby Use	13.5 – 13.8V @ 25°C Temp. Coefficient -20mV/°C No limit on Initial Charging Current
Capacity affected by Temperature	40°C 130% 25°C 100% 0°C 86%
Self-Discharge	Can be stored for up to 6 months @ 25°C Then a freshening charge is required For higher temperature the freshening time interval will be shorter

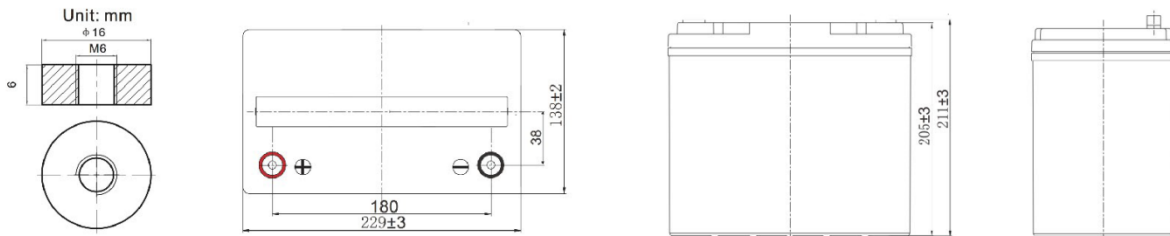
**Constant Current Discharge (Amperes at 25°C)**

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	132.3	95.7	78.1	48.7	37.6	30.8	18.1	13.6	9.4	5.51	2.90
1.75V/cell	144.5	105.2	84.7	50.7	39.1	31.8	18.6	13.9	9.6	5.61	2.94
1.70V/cell	156.3	112.3	91.5	52.4	40.3	32.7	19.1	14.2	9.8	5.68	2.97
1.65V/cell	168.5	119.8	96.7	55.3	42.0	34.0	19.7	14.6	10.0	5.74	3.01
1.60V/cell	180.1	128.0	101.1	57.8	43.5	35.1	20.2	14.9	10.2	5.80	3.04

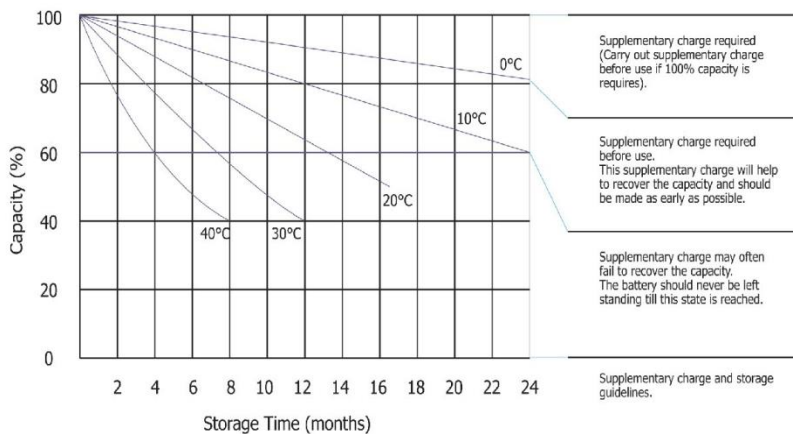
**Constant Power Discharge (Watts per cell at 25°C)**

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.80V/cell	247.5	175.4	148.1	91.5	71.5	60.0	34.9	26.3	18.5	10.94	5.71
1.75V/cell	263.0	188.0	155.6	95.2	74.5	61.3	35.8	26.9	18.8	11.08	5.80
1.70V/cell	278.2	197.9	163.7	98.4	76.9	62.2	36.7	27.4	19.0	11.17	5.85
1.65V/cell	299.9	207.1	169.7	103.8	79.1	64.3	37.4	27.9	19.4	11.24	5.91
1.60V/cell	317.1	215.5	177.0	107.0	81.2	66.4	38.2	28.4	19.7	11.32	5.97

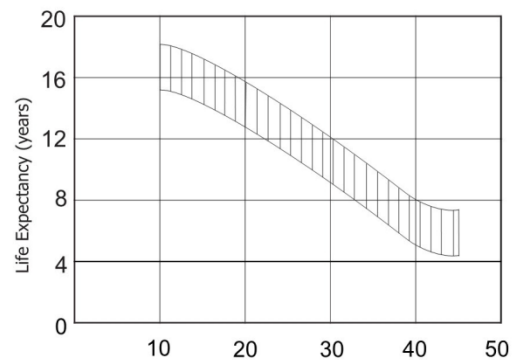
**Product Dimensions**



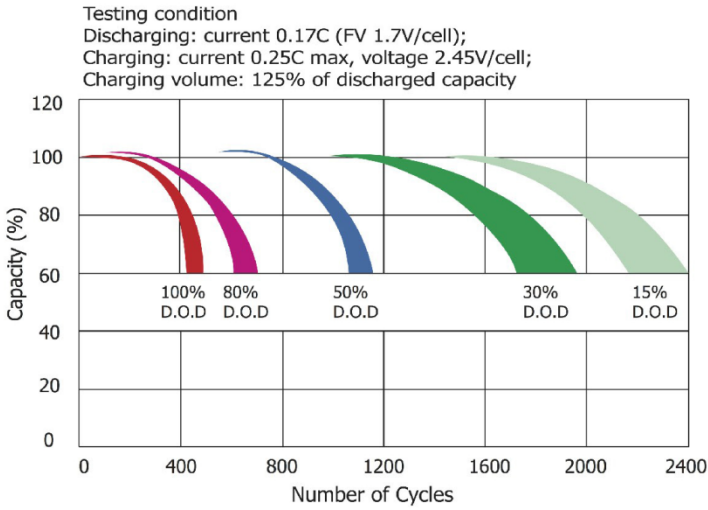
**Storage Characteristics**



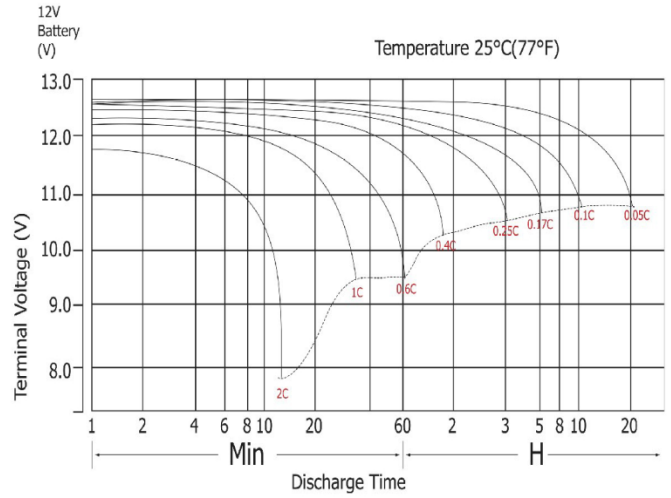
**Effect of Temperature on Float Life**



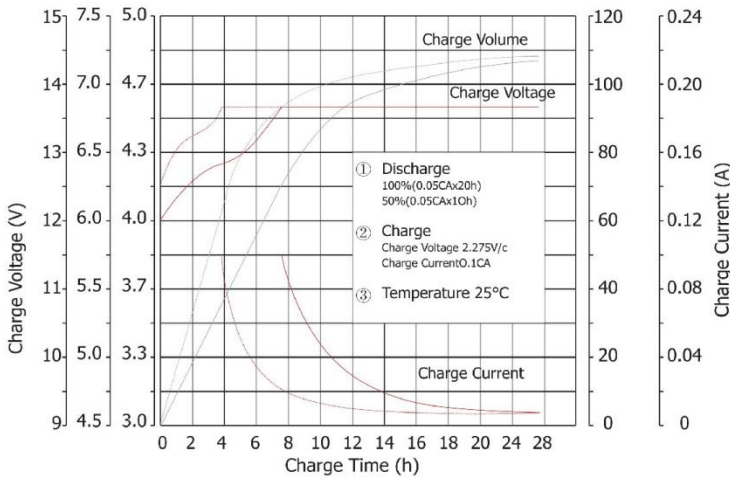
### Cycle Life with Depth of Discharge (D.O.D)



### Discharge Characteristics Curve



### Charge Characteristics Curve for Standby Use



### Temperature Effects with Capacity

