

# APFT12-55-GXD

## High Temperature Front Terminal Gel Battery

### Datasheet



The APFT12-55-GXD is a front terminal gel battery with 12 years design life designed for frequent deep cycling and for high temperature applications. The battery is made with a heavy duty Calcium Tinalloy 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 APFT12-55-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:

- Maintenance-free operation
- Compact design
- Gelled Electrolyte Technology
- Stable and reliable
- High quality
- Up to 12 years design life at 25°C

#### Applications include:

- Alarm and security systems
- Backup power for test instruments
- UPS & DC power supplies
- Emergency Lighting
- Fire alarm and security systems
- Auto-control systems
- Electronic apparatus and equipment
- Communications power supply
- Telecommunications systems

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**Product Specifications**

Model / Part Number		APFT12-55-GXD / GXDFT-55
<b>Nominal Voltage</b>		12V (6cells)
<b>Nominal Capacity At 25°C</b>		58Ah (20hr; 1.8V/cell) 55Ah (10hr; 1.8V/cell) 46.8Ah (5hr; 1.75V/cell) 33Ah (1hr; 1.6V/cell)
<b>Terminal</b>		T3
<b>Container Material</b>		ABS
<b>Maximum Discharge Current</b>		600A (5s)
<b>Internal Resistance</b>		≈ 8.0mΩ
<b>Operating Temperature Range</b>	<b>Discharge</b>	-20 – 50°C
	<b>Charge</b>	0 – 40°C
	<b>Storage</b>	-20 – 40°C
	<b>Nominal</b>	25°C ± 3°C
<b>Capacity Affected by Temperature</b>	<b>40°C</b>	103%
	<b>25°C</b>	100%
	<b>0°C</b>	86%
<b>Cycle Use</b>		14.4 – 14.8V (25°C) Temperature coefficient -30mV/°C Initial charge current < 16.5A
<b>Standby Use</b>		13.5 – 13.8 (25°C) Temperature coefficient -20mV/°C No limit on initial charge current
<b>Dimensions W x D x H</b>		106 x 277 x 223 ± 2mm (height incl. terminals)
<b>Weight</b>		18kg
<b>Self-Discharge</b>		May be stored for up to 9 months at 25°C after which a freshening charge is required. The time interval will be shorter for highertemperatures.



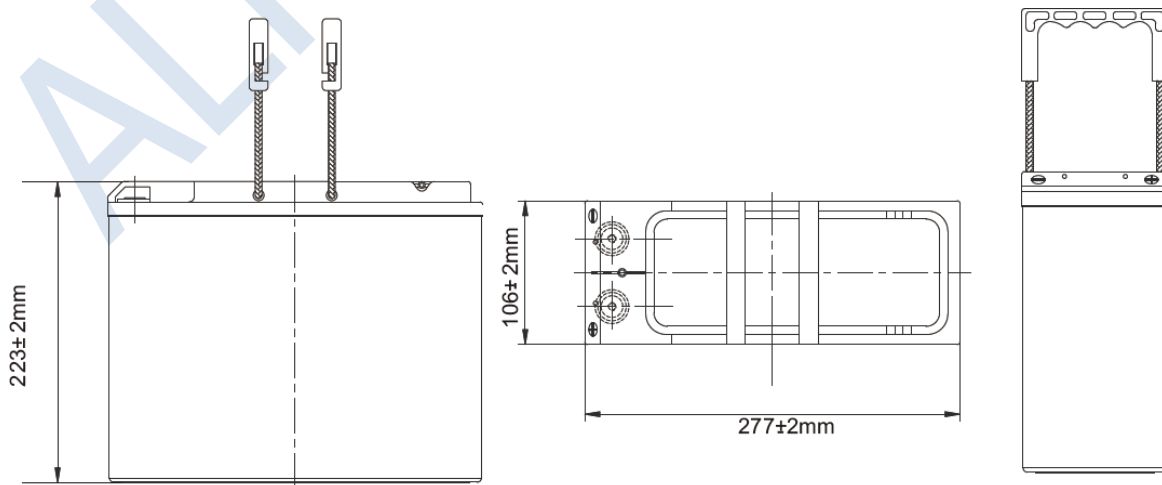
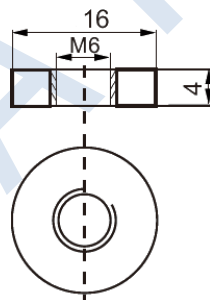
### Constant Current Discharge (Amps @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	93.3	76.1	47.4	36.7	30.2	17.8	13.4	9.2	5.6	2.93
1.75V/cell	/	102.5	82.5	49.4	38.1	31.1	18.3	13.7	9.4	5.7	2.97
1.7V/cell	/	109.5	89.1	51.1	39.3	32.0	18.8	14.0	9.6	5.7	3.00
1.65V/cell	/	116.7	94.2	53.9	40.9	33.3	19.4	14.4	9.8	5.8	3.04
1.6V/cell	/	124.7	98.5	56.3	42.4	34.4	19.9	14.6	10.0	5.9	3.07

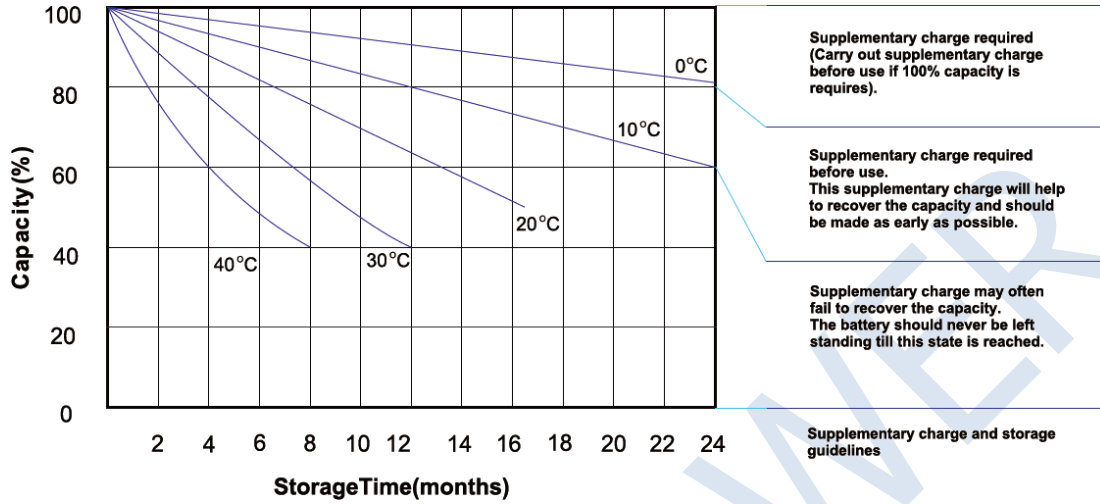
### Constant Power Discharge (Watts @ 25°C)

F.V/Time	5min	10min	15min	30min	45min	1h	2h	3h	5h	10h	20h
1.8V/cell	/	171.0	144.4	89.1	69.7	58.7	34.3	25.9	18.2	11.0	5.77
1.75V/cell	/	183.2	151.6	92.8	72.6	60.1	35.2	26.5	18.4	11.2	5.85
1.7V/cell	/	192.9	159.5	95.9	74.9	60.9	36.0	27.0	18.7	11.3	5.91
1.65V/cell	/	201.8	165.4	101.1	77.1	62.9	36.8	27.5	19.1	11.3	5.97
1.6V/cell	/	210.1	172.5	104.2	79.1	64.9	37.5	28.0	19.3	11.4	6.02

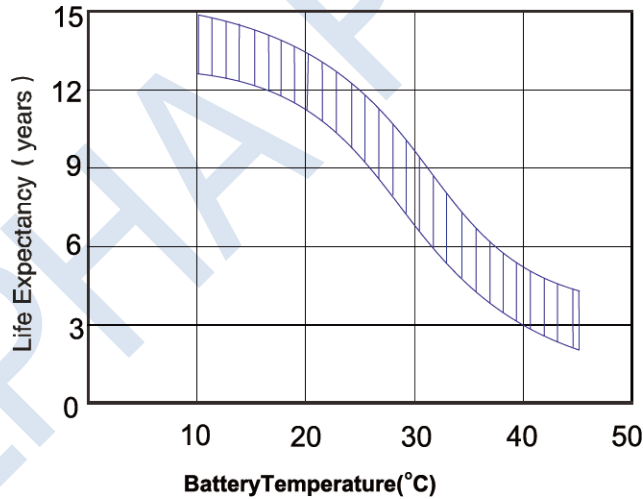
### T3 Terminal



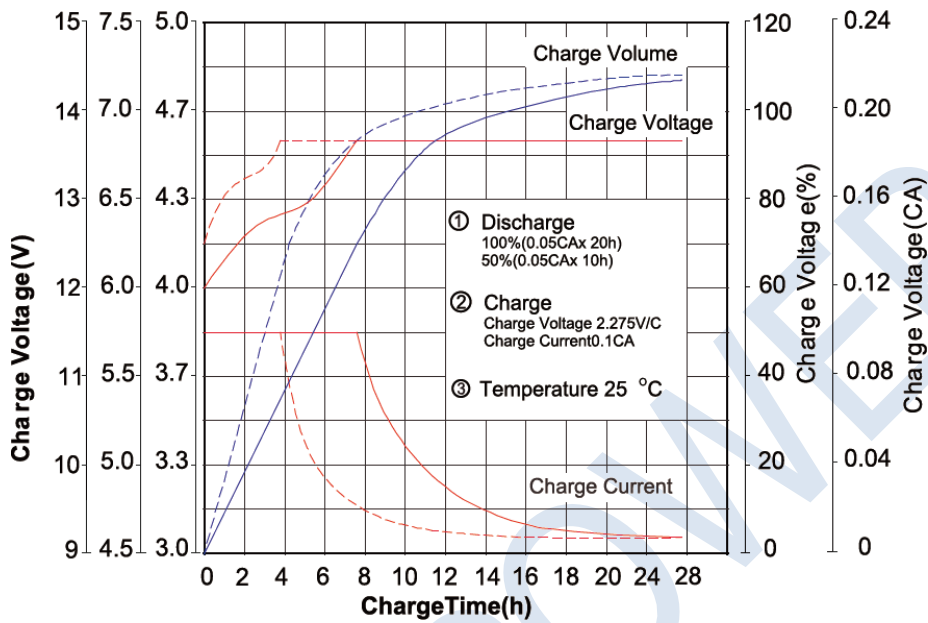
**Storage Characteristics**



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



**Charge Characteristic Curve for Standby Use**



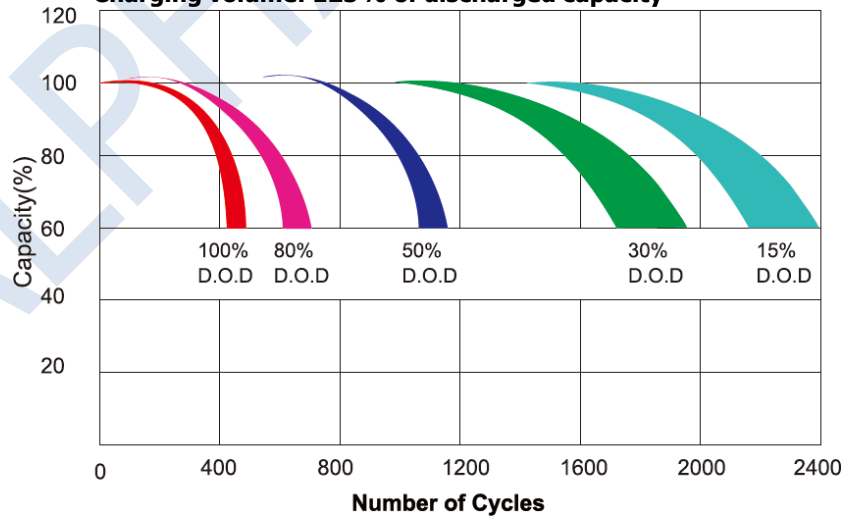
**Cycle Life in Relation to Depth of Discharge**

**Testing Condition**

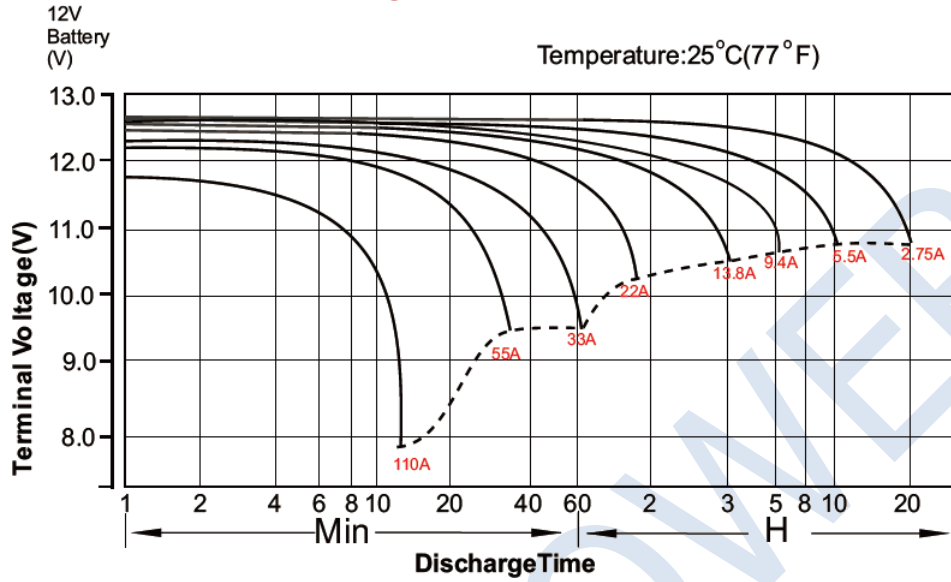
Discharging: current 0.17C (FV 1.7V/cell)

Charging: current 0.25C max, voltage 2.45V/cell

Charging volume: 125% of discharged capacity



**Discharge Characteristic Curve**



**Temperature Effects in Relation to Battery Capacity**

