

# APFT12-150-GXD

## High Temperature Front Terminal Gel Battery

### Datasheet



The APFT12-150-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 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 APFT12-150-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		APFT12-150-GXD / GXDFT-150
Nominal Voltage		12V (6cells)
Nominal Capacity At 25°C		159Ah (20hr; 1.8V/cell) 150Ah (10hr; 1.8V/cell) 128Ah (5hr; 1.75V/cell) 90Ah (1hr; 1.6V/cell)
Terminal		T3
Container Material		ABS
Maximum Discharge Current		1000A (5s)
Internal Resistance		≈ 4.5mΩ
Operating Temperature Range	Discharge	-20 – 50°C
	Charge	0 – 40°C
	Storage	-20 – 40°C
	Nominal	25°C ± 3°C
Capacity Affected by Temperature	40°C	103%
	25°C	100%
	0°C	86%
Cycle Use		14.4 – 14.8V (25°C) Temperature coefficient -30mV/°C Initial charge current < 10A
Standby Use		13.5 – 13.8 (25°C) Temperature coefficient -20mV/°C No limit on initial charge current
Dimensions W x D x H		109 x 551 x 287 mm ± 2mm
Weight		48kg
Self-Discharge		May be stored for up to 6 months at 25°C after which a freshening charge is required. The time interval will be shorter for higher temperatures.

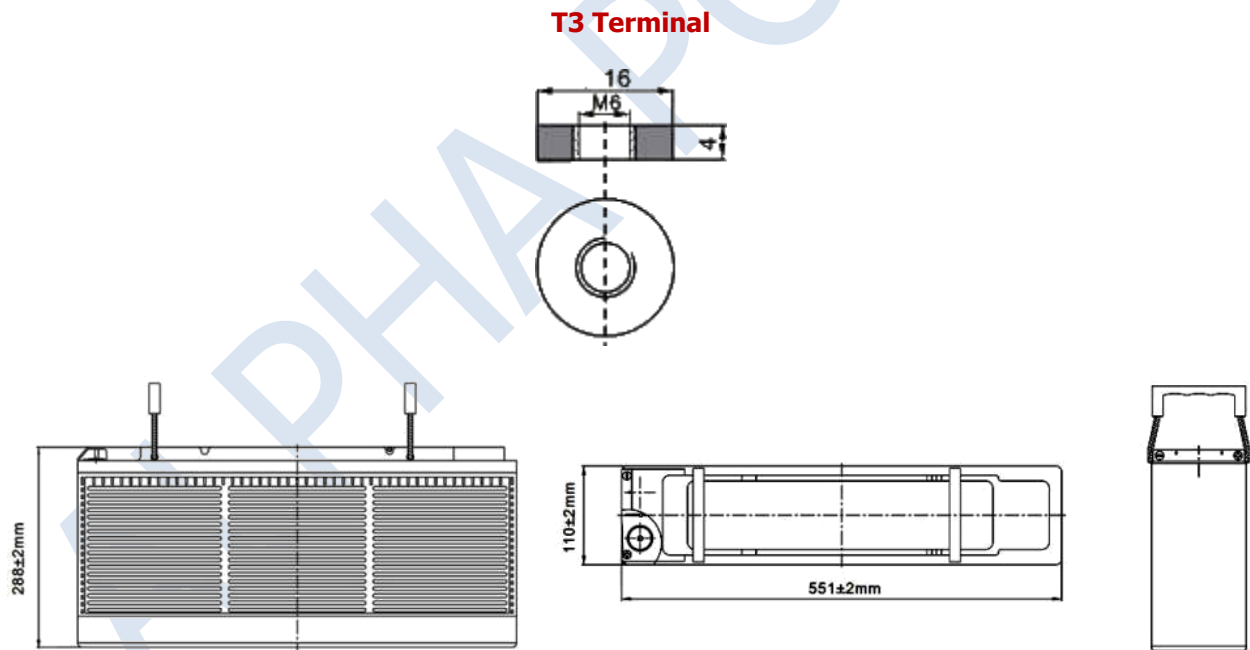


**Constant Current Discharge (Amps @ 25°C)**

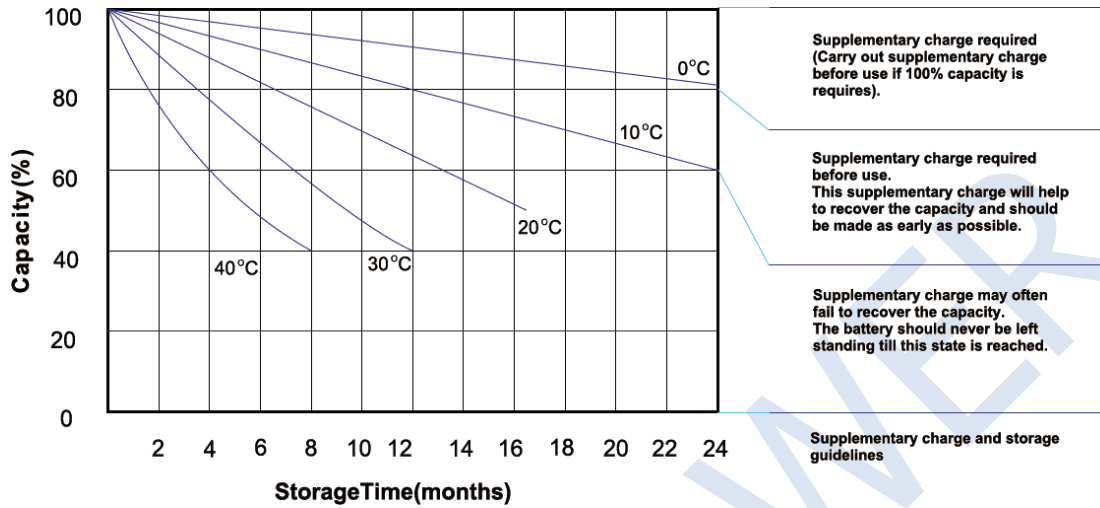
F.V/Time	10min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.8V/cell	272.4	222.2	138.5	107.1	88.1	52	39	32.9	26.8	24.5	19.1	16.2	8.54
1.75V/cell	299.2	240.9	144.2	111.1	90.8	53.4	40	33.5	27.5	24.9	19.4	16.5	8.67
1.7V/cell	319.5	260.2	149.1	114.7	93.5	54.9	40.9	33.9	28	25.3	19.7	16.7	8.75
1.65V/cell	340.8	275	157.3	119.5	97.2	56.5	42.1	34.3	28.5	25.5	19.9	16.9	8.88
1.6V/cell	364.2	287.6	164.3	123.9	100.4	57.1	42.8	34.6	29.1	25.8	20.1	17.1	8.96

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

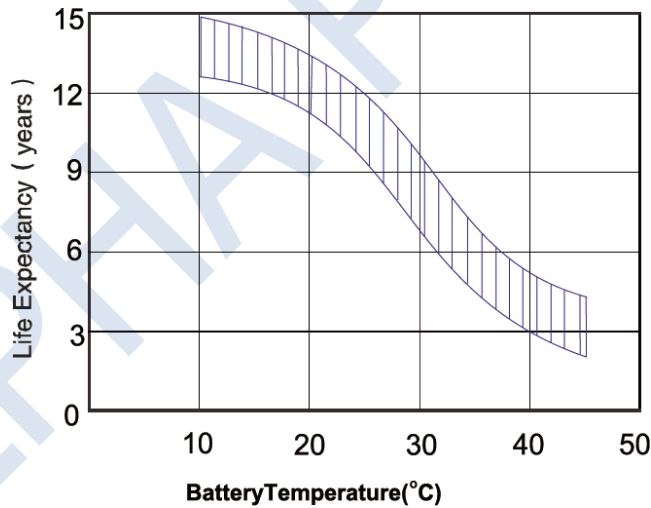
F.V/Time	10min	15min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.8V/cell	499.1	421.5	260.2	203.4	171.5	100	75.7	65.3	53.1	48.6	37.9	32.2	16.83
1.75V/cell	535	442.6	270.8	211.9	175.4	102.7	77.3	66.1	53.9	49.3	38.4	32.9	17.25
1.7V/cell	563	465.6	280	218.7	177.8	105.2	78.8	66.6	54.5	49.6	38.7	32.9	17.25
1.65V/cell	589.2	482.8	295.2	225	183.7	107.4	80.3	67.4	55.6	50	38.9	33.1	17.42
1.6V/cell	613.2	503.7	304.3	230.9	189.4	109.6	81.8	67.6	56.4	50.3	39.2	33.4	17.59



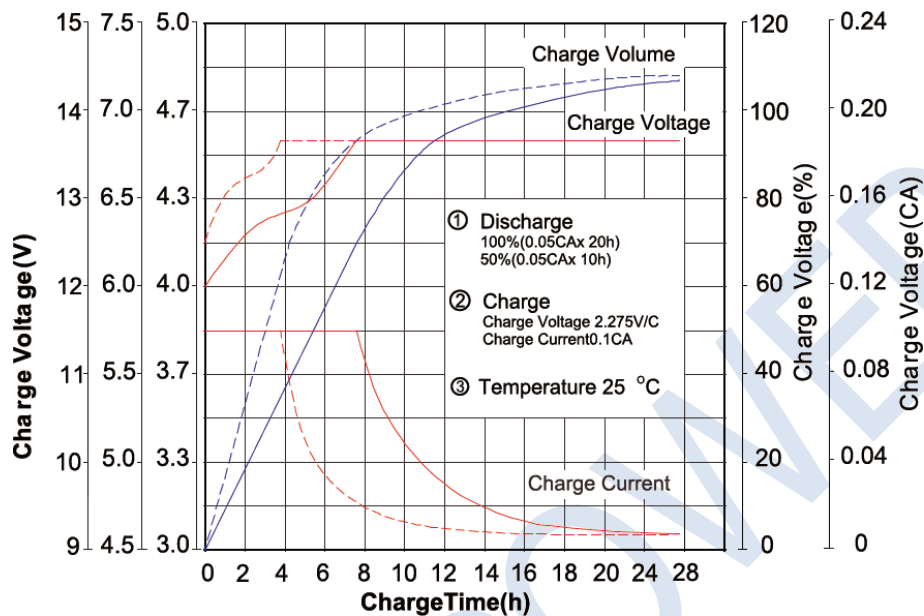
**Storage Characteristics**



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



**Charge Characteristic Curve for Standby Use**



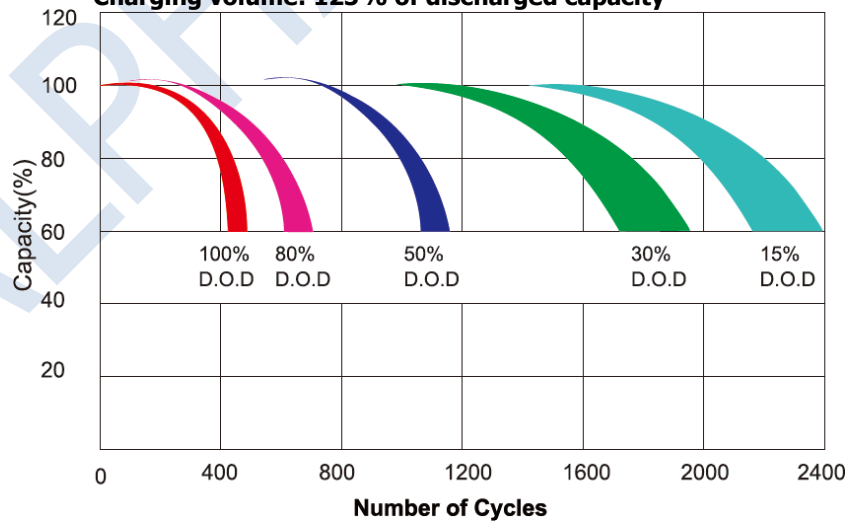
**Cycle Life in Relation to Depth of Discharge**

**Testing Condition**

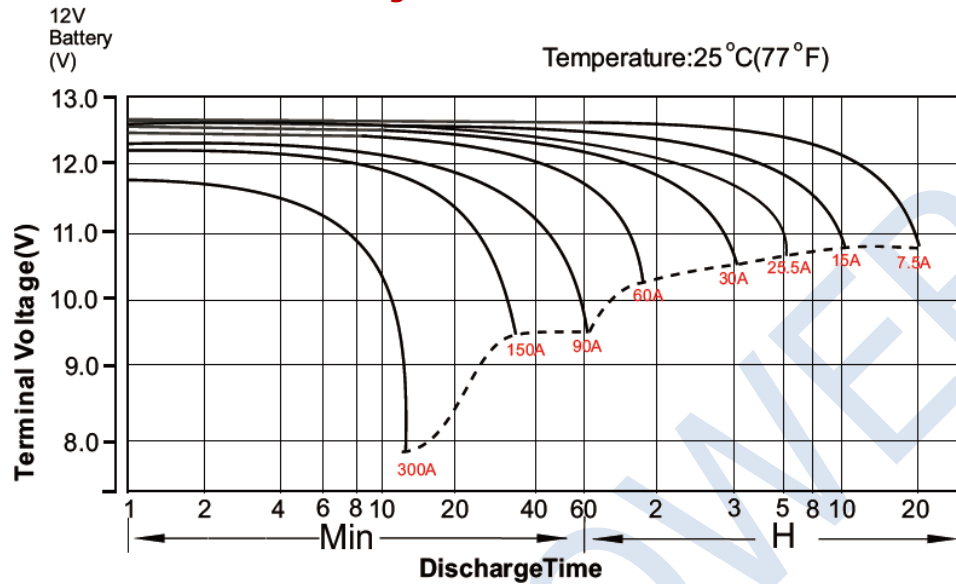
Discharging: current 0.17C (FV 1.7V/cell)

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**

