

FPC12-13

Datasheet

FULBAT®
CYCLIC BATTERY

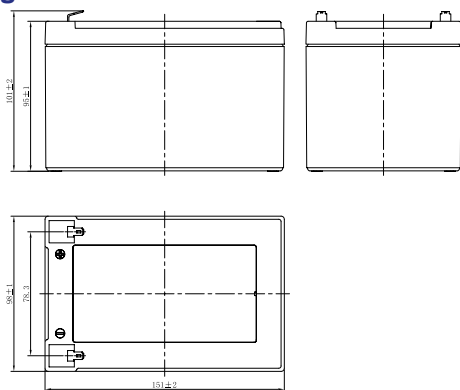


FPC Series are deep cycle batteries specially designed for long duration cyclic applications, ie with use in charge and then intensive discharge. With advanced AGM valve regulated technology and oversized negative plates, the FPC Series ensure very good cyclic performance with greater depth of discharge for mobility-type applications such as medical, golf and also renewable energies storage.

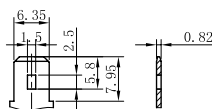
In harsh use conditions (high temperature, higher deep of discharge...), the Gel FPG range is recommended.

DIMENSIONS & WEIGHT

Lenght	151±2mm
Width	98±2mm
Total height	101±2mm
Gross weight	3.78kg



TERMINAL



T2

SPECIFICATIONS

Nominal voltage	12V (6 cells)
Nominal capacity	14.0Ah (20hr)
Cycle life	
(50% capacity @20°C)	Up to 350 cycles at 100% DOD
(50% capacity @20°C)	Up to 800 cycles at 50% DOD
Internal resistance	Approx 14mΩ
Terminal	T2
Max. discharge current	392A (5 sec)
Reference capacity	13.2Ah (20hr, 1.80V/cell, 25°C) 12.5Ah (10hr, 1.80V/cell, 25°C) 10.7Ah (5hr, 1.75V/cell, 25°C) 9.94Ah (3hr, 1.75V/cell, 25°C) 8.86Ah (1hr, 1.60V/cell, 25°C)
Charge voltage	
Standby use voltage	2.25V ~ 2.30V at 25°C Temperature compensation: -3mV/°C/Cell
Cycle use voltage	2.35V ~ 2.45V at 25°C Temperature compensation: -5mV/°C/Cell
Operating temp. range	Discharge: -20°C ~ 55°C Charge: 0°C ~ 40°C Storage: -20°C ~ 40°C
Nominal operating temp. range	25°C ± 3°C
Self discharge	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
Capacity affected by temp.	40°C 103% 25°C 100% 0°C 86%
Container material	A.B.S. UL94-HB UL94-V0 optional

APPROVALS

ISO9001 - Quality management system
ISO14001 - Environmental management System
Approved for transport by Air (IATA)
Designed in accordance with IEC 60896-21/22

APPLICATIONS



Medical



Renewable energy



Mobility

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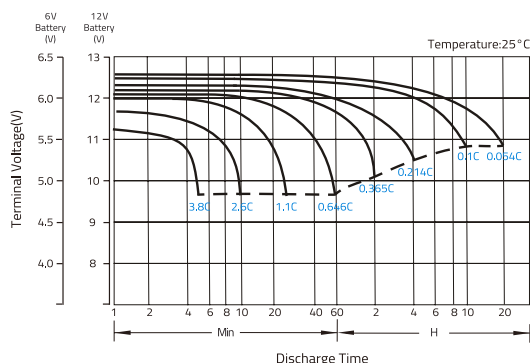
CONSTANT CURRENT DISCHARGE (A) @25°C

F.V./Time	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	8.33	4.79	3.46	2.76	2.35	2.01	1.58	1.29	0.684
1.80V/cell	8.53	4.88	3.52	2.80	2.38	2.04	1.60	1.31	0.692
1.75V/cell	8.70	4.97	3.57	2.83	2.41	2.06	1.62	1.32	0.700
1.70V/cell	8.86	5.04	3.62	2.87	2.44	2.09	1.64	1.34	0.706

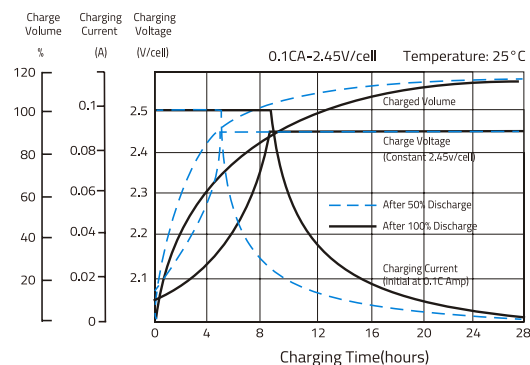
CONSTANT POWER DISCHARGE (W/CELL) @25°C

F.V./Time	1h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	16.2	9.38	6.80	5.43	4.63	3.97	3.14	2.57	1.37
1.80V/cell	16.5	9.53	6.90	5.50	4.69	4.03	3.18	2.60	1.38
1.75V/cell	16.8	9.68	6.99	5.57	4.74	4.07	3.21	2.63	1.40
1.70V/cell	17.1	9.80	7.08	5.63	4.80	4.11	3.24	2.65	1.41

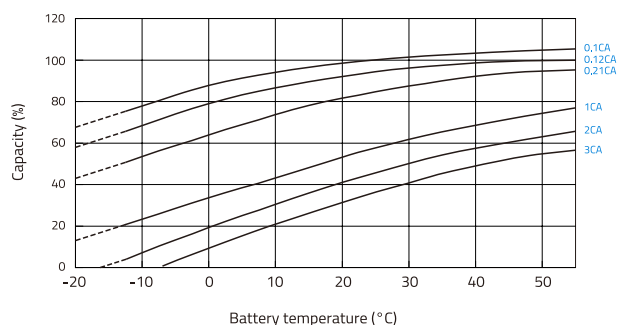
DISCHARGE CHARACTERISTICS



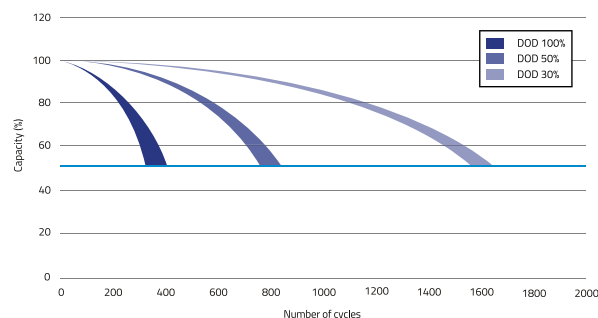
FLOAT CHARGING CHARACTERISTICS



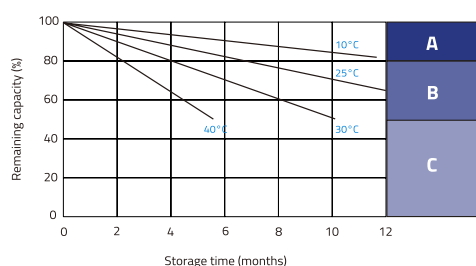
TEMPERATURE IN RELATION TO BATTERY CAPACITY



CYCLE LIFE IN RELATION TO DEPTH OF DISCHARGE



SELF DISCHARGE CHARACTERISTICS



A No supplementary charge required
(Carry out supplementary charge before use if 100% capacity is required.)

Supplementary charge required before use. Optional charging way as below:

- B**
1. Charged for above 3 days at limited current 0.25CA and constant voltage 2.25V/cell.
 2. Charged for above 20 hours at limited current 0.25CA and constant voltage 2.45V/cell.
 3. Charged for 8~10 hours 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.