



12V

7Ah

SLA

UPS
AGM

12NBN7P-F2

Rechargeable AGM Sealed Lead Acid Battery

SPECIFICATIONS

Nominal Voltage	12V
Nominal Power (10 min rate)	36W/cell to 1.60V/cell
Nominal Capacity	
20 hour rate	(0.350A to 10.50V) 7Ah
10 hour rate	(0.665A to 10.50V) 6.65Ah
5 hour rate	(1.190A to 10.20V) 5.95Ah
1C	(7.0A to 9.60V) 4.43Ah
3C	(21.0A to 9.60V) 2.8Ah
Weight	Approx. 2.24kg
Internal Resistance (at 1KHz)	Approx. 19mΩ
Maximum Discharge Current (5 secs)	105A

Charge Methods at 25°C

Cycle Use

Charging Voltage 14.4V to 15.0V
Coefficient -5.0mV/°C/Cell

Maximum Charging Current 2.1A

Standby Use

Float Charging Voltage 13.5V to 13.8V
Coefficient -3.0mV/°C/Cell

Operating Temperature Range

Charge	-15°C to 50°C*
Discharge	-15°C to 50°C
Storage	-15°C to 40°C

Charge Retention (Shelf Life) at 20°C

1 month	92%
3 months	90%
6 months	80%

Case Material ABS UL94 HB

Termination F2 (Faston Tab 250)

Design Life 3-5 years

Classified as a non-spillable battery.

Approved for transportation by:

- Air (IATA/ICAO provision 67)
- Road (DOT-CFR-HMR49)
- Sea (per IMDG amendment 27)



Barcode

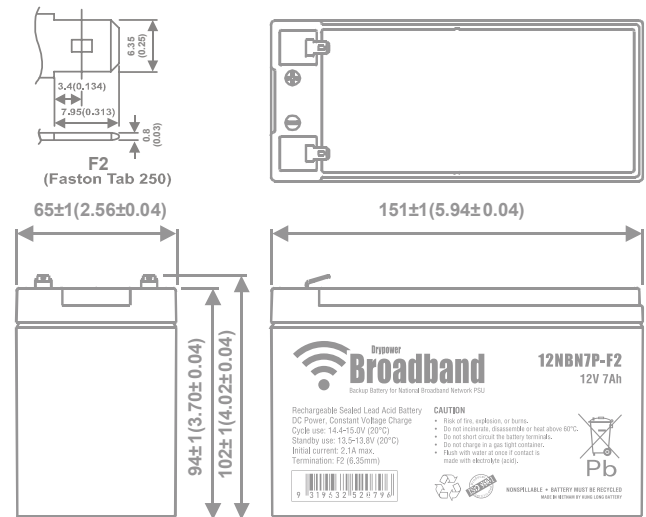


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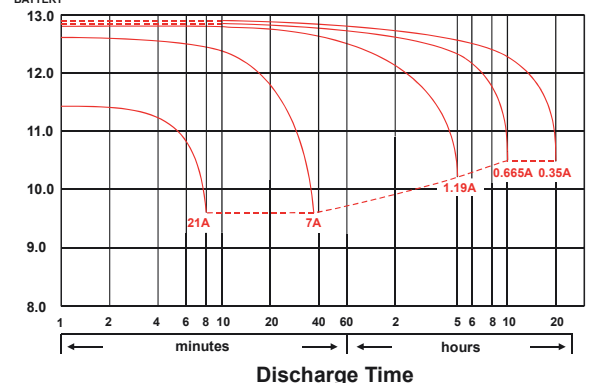


DIMENSIONS

mm (inch)



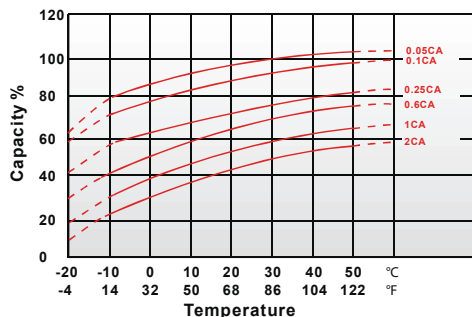
(v) FOR 12V BATTERY Discharge Time VS. Discharge Current (25°C)



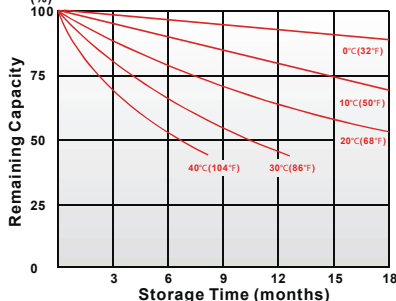
* If charging above 40°C, always use temperature-compensated charging (refer charge methods above). High temperature use accelerates ageing; as a general guide, service life halves for every 10°C sustained rise above 25°C. Consult the engineers at MI for more information if required.

CHARACTERISTICS CHARTS

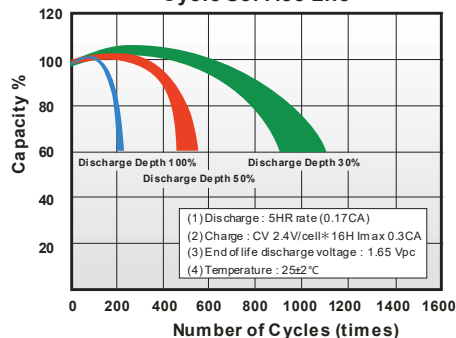
Effect of Temperature on Capacity 25°C (77°F)



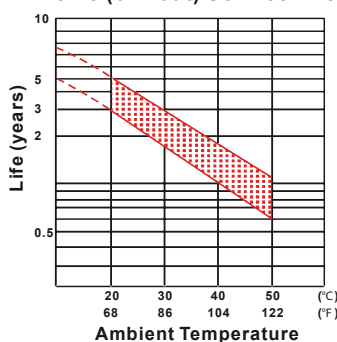
Capacity Retention Characteristic



Cycle Service Life



Trickle (or float) Service Life



FEATURES & BENEFITS

- ◆ Industry leading 99.99% pure lead content for superior service life and dependable performance.
- ◆ Specially formulated solder paste to ensure reliable power delivery.
- ◆ Maintenance free technology and non-spillable design.
- ◆ Special grid frame alloy design with outstanding anti-corrosion performance.
- ◆ Higher percentage of tin content compared with the industry standard. Tin extends battery standby life by minimising sulphation (corrosion) especially at higher temperatures.
- ◆ Manufactured by Kung Long Battery (KLB) at facilities in Taiwan and Vietnam. KLB is a leading manufacturer and complies with relevant international quality standards including ISO9001, CE ETL9000, UL1989, OHSAS18001 and ISO17025. KLB supports Green Sustainable supply chain practices.



PERFORMANCE DATA

Discharge Rates in Watts to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	43.8	47	49	51	51.8	52.8	54.3
10	min	30	31.8	33.2	34.3	34.8	35.5	36.5
15	min	24	25.2	25.8	26.5	26.8	27.3	28
30	min	12.1	12.9	13.6	14.1	14.3	14.4	14.6
60	min	7.7	8.38	8.63	8.87	8.97	9.08	9.23
120	min	4.1	4.52	4.72	4.92	4.98	5.07	5.2
180	min	3.08	3.32	3.48	3.62	3.67	3.72	3.8
240	min	2.85	2.93	3	3.05	3.07	3.1	3.15
300	min	2.47	2.53	2.58	2.62	2.63	2.65	2.68
600	min	1.36	1.4	1.42	1.43	1.44	1.44	1.45
1200	min	0.69	0.705	0.718	0.728	0.732	0.737	0.743

Discharge Rates in Amperes to Various End Voltages at 25°C (77°F)

End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	23.1	26.2	27.8	29.1	29.6	30.5	31.7
10	min	16.1	17.3	18.1	18.6	18.9	19.2	19.8
15	min	12.6	13.1	13.5	13.8	14	14.1	14.3
30	min	6.54	7.05	7.28	7.47	7.56	7.68	7.85
60	min	4.02	4.25	4.41	4.52	4.58	4.63	4.71
120	min	2.26	2.38	2.45	2.49	2.51	2.54	2.57
180	min	1.65	1.74	1.79	1.82	1.83	1.85	1.88
240	min	1.35	1.4	1.44	1.47	1.49	1.51	1.53
300	min	1.1	1.16	1.21	1.25	1.27	1.28	1.29
600	min	0.667	0.675	0.682	0.687	0.69	0.694	0.698
1200	min	0.339	0.346	0.35	0.353	0.355	0.357	0.359

All data on the spec. sheet is an average value:

The tolerance range : X < 6min (+15%~-15%), 6min ≤ X < 10min (+12%~-12%), 10min ≤ X < 60min (+8%~-8%), X ≥ 60min (+5%~-5%)

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Performance may vary depending on application. All specifications are correct at time of creation. All specifications and operation conditions contained in this datasheet are subject to change or improvement without prior notice to the user. This data is for evaluation purposes only. No guarantee is intended or implied by this data. For clarification and updated information, please contact us.