



AGM TECHNOLOGY
ABT Thunder TM...W Series



TM12-160W

12V 24Ah(20hr)

High Rate Discharge

The ABT Thunder TM...W VRLA are batteries according to Eurobat Classification and specially designed for applications which need high power backup.

Thunder TM...W is the premium plus VRLA battery for UPS and diesel start application.

Mechanical Characteristics

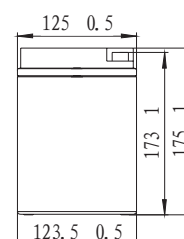
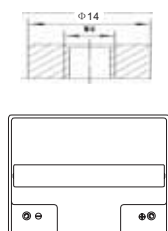
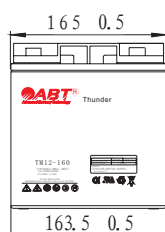
	SI Units	English Units
Length	165mm	6.50inch
Width	125mm	4.92inch
Height	175mm	6.89inch
Total Height	175mm	6.89inch
Approx. Weight	8.80kg	19.40lb

Type of material for box and lids :
ABS Standard (FV0 Optional)

Product Characteristics

- Positive and negative grids in lead-calcium tin alloy
- Superior energy density
- More than 40% power output than ABT standard SGP series
- Operates at a low internal pressure
- Usable in any orientation
- A recognized component of UL
- Range of 6V and 12V monobloc from 160W to 1000W per cell for 10' @ 1.60Vpc
- 6 months shelf life at 20°C
- 10 years design life

Dimensions / Terminal



Performance Characteristics

Nominal Voltage	12V
Number of cell	6
Nominal Capacity 68°F(20°C)	10 min wattage @1.60V160W per cell 1 hour rate (15.9A, 1.60V per cell)15.9 Ah 10 hour rate (2.23A, 1.75V per cell) 22.3Ah 20 hour rate (1.20A, 1.75V per cell) 24Ah
Internal Resistance	Fully Charged battery 68°F(20°C) 11.5 mOhms
Mass Energy(Wh/kg)	32.73
Volumic energy(Wh/L)	79.79
Self-Discharge	3% of capacity declined per month at 20°C(average)
Operating Temperature Range	Discharge -20~60°C Charge -10~60°C Storage -20~60°C
Max. Discharge Current	360A(5s)
Short circuit current	1043A
Charge Methods:	Constant Voltage Charge 68°F(20°C) Cycle use 14.4-15.0V/unit Temperature compensation -30mV/°C/unit Standby use 13.5-13.8V/unit Temperature compensation -20mV/°C/unit Maximum charging current 7.2A of rated capacity
Terminal Type	Inserted Thread and bolt M6x ϕ 14
Torque strength in Nm	3~4
Handle Type	Incorporated
Flame arrester	Yes

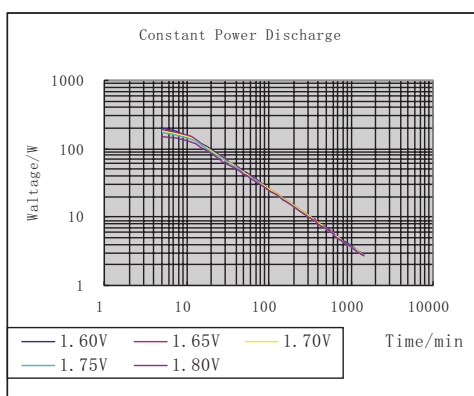
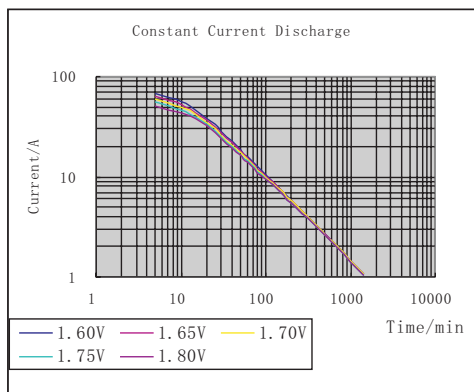
Constant Current Discharge Data (Amperes at 20°C)

End Volt. Per Cell	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60V	88.8	65.0	50.2	40.8	34.5	29.7	25.8	22.9	20.3	18.0	15.9	12.6	9.90	7.70	6.40	5.05	4.15	3.56	3.12	2.79	2.52	2.30	2.00	1.11
1.65V	78.8	60.3	47.6	39.0	33.3	28.4	25.1	22.2	19.7	17.2	15.1	11.8	9.51	7.53	6.24	4.98	4.10	3.53	3.09	2.76	2.51	2.28	1.98	1.09
1.70V	72.3	56.0	45.2	37.4	31.9	27.2	24.0	21.3	18.8	16.5	14.4	11.2	9.01	7.27	6.10	4.88	4.06	3.49	3.05	2.73	2.48	2.26	1.96	1.07
1.75V	66.6	52.5	43.1	35.7	30.8	26.0	23.1	20.4	18.2	15.9	13.7	10.6	8.59	7.03	5.95	4.80	4.00	3.43	3.01	2.71	2.46	2.23	1.93	1.04
1.80V	61.6	49.3	40.9	34.2	29.7	25.0	22.2	19.6	17.2	15.0	12.9	10.1	8.10	6.75	5.80	4.72	3.94	3.38	2.98	2.67	2.43	2.22	1.91	1.02

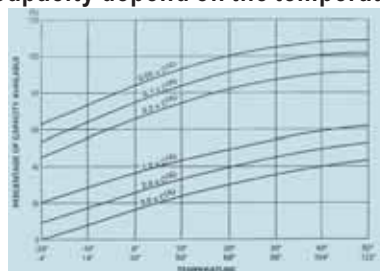
Constant Power Discharge Data (Watts per cell at 20°C)

End Volt. Per Cell	5min	10min	15min	20min	25min	30min	35min	40min	45min	50min	1h	1.5h	2h	2.5h	3h	4h	5h	6h	7h	8h	9h	10h	12h	24h
1.60V	190.5	160.0	115.2	91.3	76.7	64.9	54.0	47.5	42.6	38.8	35.3	28.7	21.50	17.18	14.20	11.80	9.65	8.35	7.29	6.32	5.70	5.30	4.81	2.77
1.65V	182.4	152.1	108.0	86.8	72.5	61.0	51.6	45.5	41.6	37.9	34.2	28.2	21.16	16.91	14.09	11.63	9.50	8.21	7.18	6.22	5.60	5.22	4.71	2.71
1.70V	175.3	143.5	102.4	82.8	69.3	57.3	49.5	44.0	40.0	36.6	33.1	27.7	20.58	16.68	13.92	11.48	9.38	8.07	7.04	6.12	5.50	5.14	4.61	2.67
1.75V	166.7	136.0	96.4	78.9	64.5	54.4	47.3	43.1	38.9	35.6	32.0	27.2	20.15	16.42	13.72	11.29	9.23	7.93	6.95	5.99	5.42	5.05	4.54	2.59
1.80V	156.8	128.6	91.4	75.1	60.4	52.4	46.2	41.6	37.9	34.5	31.0	26.8	19.80	16.21	13.60	11.12	9.08	7.79	6.80	5.88	5.31	5.00	4.45	2.53

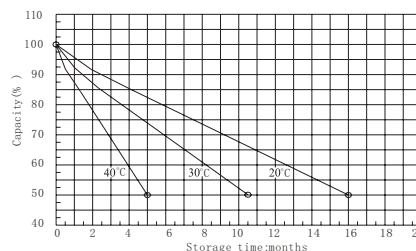
Performance drawing



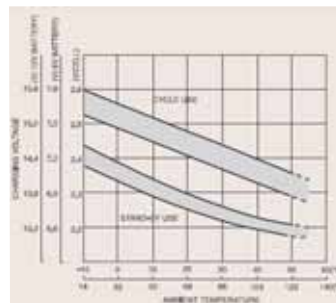
Capacity depend on the temperature



Capacity Retention Characteristic



Charge voltage depend on the temperature



Contact information

Shandong Sacred Sun Power Sources Co., Ltd.
 Add: No1, Shengyang Road, Qufu City, Shandong Province, China 273100
 Tel: +86-537-4438 666 extn 6027 Fax: +86-537-4411 936
 Website: <http://www.abtbatt.com> Email: sales@abtbatt.com

ABT VRLA Battery: Available Power Range From 7Ah to 3000Ah

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