



AGM TECHNOLOGY  
ABT Thunder TM...W Series

## TM12-280W

12V 55Ah(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

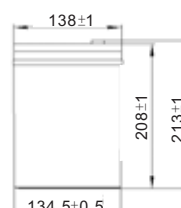
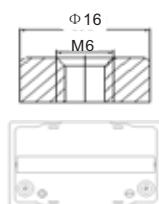
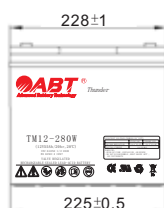
	SI Units	English Units
Length	228mm	8.98inch
Width	138mm	5.43inch
Height	208mm	8.19inch
Total Height	213mm	8.39inch
Approx. Weight	18.75Kg	41.34 lbs

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@1.60V 280W per Cell 1 hour rate (36.9A, 1.60V per cell)36.9Ah 10 hour rate (5.12A, 1.75V per cell) 51.2Ah 20 hour rate (2.75A, 1.75V per cell) 55Ah
Internal Resistance	Fully Charged battery 68°F(20°C) 5.1 mOhms
Mass Energy(Wh/kg)	35.2
Volumic energy(Wh/L)	100.4
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	715A(5s)
Short circuit current	2350A
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 16.5A of rated capacity
Terminal Type	Inserted Thread and bolt M6X 16
Torque strength in Nm	8~10
Handle Type	Plastic
Flame arrestor	Yes

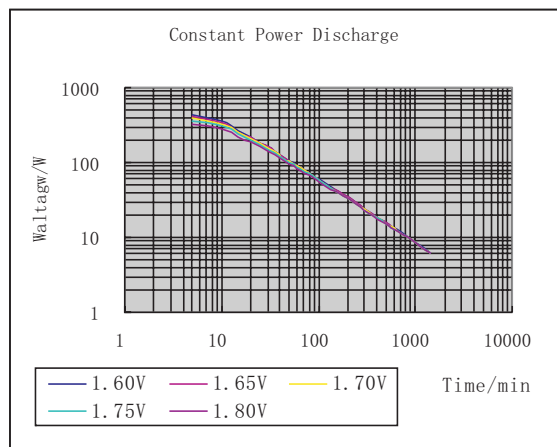
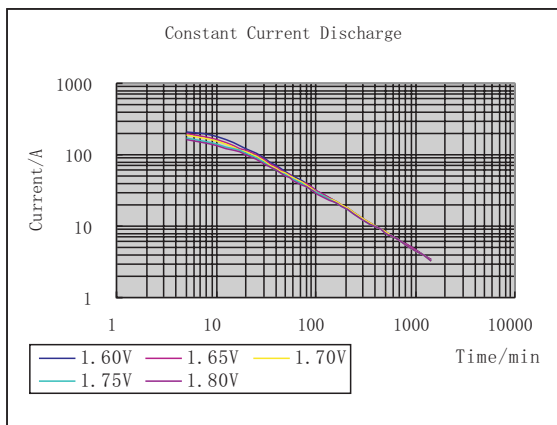
### Constant Current Discharge Data ( Amperes at 20°C )

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	193.0	133.0	106.9	88.5	75.6	65.5	57.7	51.6	46.8	42.9	36.9	26.25	20.72	17.10	14.41	11.67	9.45	8.16	7.15	6.39	5.78	5.28	4.52	2.48
1.65V	180.0	126.0	100.8	84.7	72.4	62.8	55.5	49.9	45.4	41.7	36.0	25.63	20.41	16.83	14.18	11.48	9.34	8.08	7.06	6.33	5.74	5.24	4.48	2.45
1.70V	169.0	119.0	95.2	80.0	69.2	59.6	52.9	47.7	43.5	40.1	34.7	25.17	19.97	16.53	14.00	11.28	9.24	7.97	7.00	6.28	5.69	5.20	4.45	2.44
1.75V	157.0	111.0	91.2	77.0	66.0	57.3	50.7	45.6	41.6	38.2	33.6	24.38	19.48	16.23	13.81	11.13	9.12	7.87	6.91	6.20	5.64	5.12	4.42	2.41
1.80V	145.2	104.0	86.2	73.3	62.6	55.0	48.9	44.2	40.4	37.2	32.5	23.59	19.02	15.92	13.63	10.96	9.01	7.77	6.83	6.12	5.59	5.03	4.39	2.40

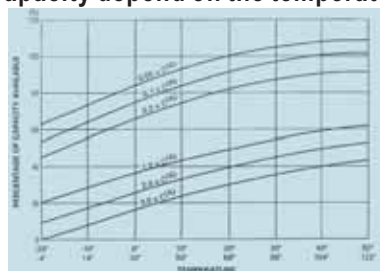
### Constant Power Discharge Data ( Watts per cell at 20°C )

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	355.2	280.0	210.6	168.0	141.0	123.0	109.0	98.8	89.7	80.9	70.0	50.64	40.27	33.49	28.26	22.65	18.60	15.82	13.81	12.32	11.20	10.12	8.69	4.74
1.65V	337.6	267.6	203.6	163.3	137.6	120.1	106.4	96.1	87.5	79.0	68.1	49.55	39.49	32.75	27.68	22.18	18.32	15.63	13.62	12.20	11.06	10.04	8.62	4.71
1.70V	317.0	252.4	196.1	158.1	133.5	117.1	104.2	93.7	85.5	76.9	66.6	48.58	38.62	32.12	27.17	21.79	18.01	15.44	13.46	12.04	10.94	9.94	8.54	4.67
1.75V	299.2	241.8	188.1	152.5	129.6	113.8	101.6	91.7	83.2	75.2	65.1	47.49	37.77	31.48	26.63	21.36	17.73	15.22	13.30	11.92	10.84	9.85	8.44	4.62
1.80V	283.7	230.6	178.3	146.8	125.8	110.3	98.9	89.3	80.8	73.4	63.8	46.24	37.00	30.88	26.12	20.88	17.39	15.02	13.16	11.77	10.70	9.75	8.35	4.60

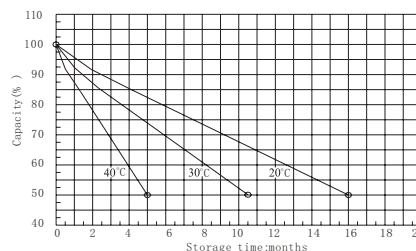
### Performance drawing



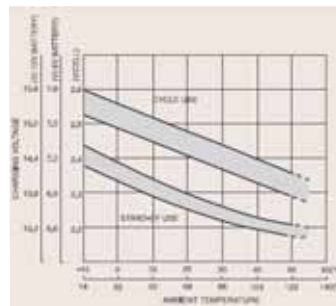
### Capacity depend on the temperature



### Capacity Retention Characteristic



### Charge voltage depend on the temperature



### Contact information

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

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 (Edition: May. 2011)