

# TS12-46W

12V8Ah(20hr)

## High Rate Discharge

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

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

## Mechanical Characteristics

	SI Unit	English Unit
Length	151mm	5.94inch
Width	65mm	2.56inch
Height	93mm	3.66inch
Total Height	98mm	3.86inch
Approx. Weight	2.58Kg	5.69lb
Type of material for Box and lids : ABS Standard (FV0 Optional)		

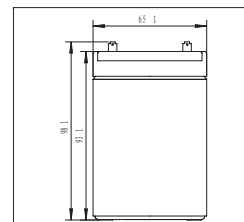
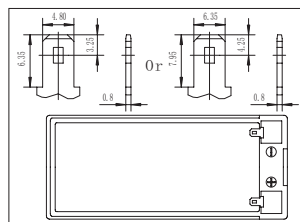
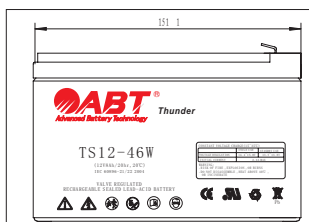
## Product Characteristics

- Positive and negative grids in lead-calcium tin alloy
- Superior energy density
- More than 40% power output than ABT standard SC series
- Operates at a low internal pressure
- Usable in any orientation
- A recognized component of UL
- Range 12V monobloc from 46W to 50W per cell for 10' @ 1.60Vpc
- Six months shelf life at 20°C
- 5 yrs design life

## Performance Characteristics

Nominal Voltage	12V
Number of cell	6
Nominal Capacity 20°C (68°F)	10 min wattage @1.60V46W/cell 1 hour rate (5.68A, 1.60V Per cell)5.68Ah 10 hour rate (0.744A, 1.75V Per cell)7.44Ah 20 hour rate (0.40A, 1.75V Per cell)8Ah
Internal Resistance	Fully Charged battery 20°C(68°F) 25mOhms
Mass Energy(Wh/kg)	37.21
Volumic energy(Wh/L)	105.17
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	120A (5s)
Short circuit current	500A
Charge Methods:	Constant Voltage Charge 20°C(68°F) 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 2.4A

## Dimensions / Terminal



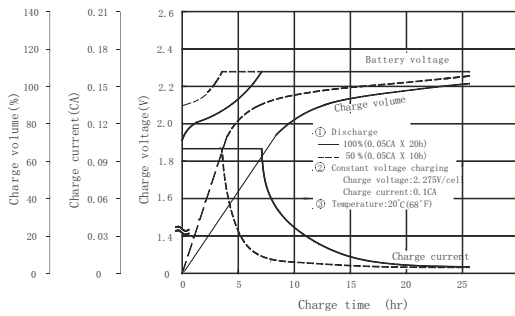
### Constant Current Discharge Data ( Amperes at 20°C / 68°F )

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	31.79	20.95	15.80	13.05	11.14	9.78	8.78	7.90	7.22	6.59	5.68	4.370	3.400	2.760	2.350	1.880	1.520	1.320	1.160	1.027	0.920	0.814	0.698	0.375
1.65V	29.64	19.70	15.09	12.57	10.75	9.40	8.44	7.60	6.86	6.26	5.39	4.200	3.237	2.639	2.249	1.809	1.463	1.271	1.125	0.996	0.889	0.790	0.678	0.361
1.70V	27.79	18.77	14.46	12.07	10.33	9.04	8.08	7.31	6.56	5.96	5.18	4.008	3.062	2.539	2.166	1.743	1.408	1.236	1.087	0.966	0.860	0.766	0.661	0.348
1.75V	26.11	17.96	13.83	11.41	9.82	8.59	7.75	6.98	6.26	5.75	5.03	3.809	2.938	2.448	2.091	1.676	1.363	1.186	1.046	0.935	0.836	0.744	0.643	0.338
1.80V	24.94	17.13	13.26	11.00	9.37	8.23	7.43	6.74	6.01	5.51	4.78	3.635	2.800	2.350	2.020	1.600	1.280	1.141	1.010	0.902	0.817	0.726	0.627	0.325

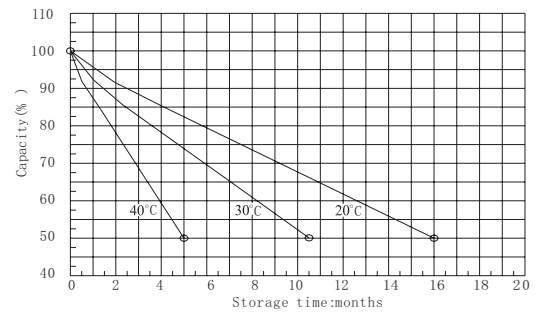
### Constant Power Discharge Data ( Watts per cell at 20°C / 68°F )

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	75.10	46.00	34.20	27.70	23.10	20.10	17.80	15.96	14.64	13.61	11.73	8.450	6.760	5.630	4.790	3.760	3.136	2.685	2.347	2.112	1.924	1.765	1.502	0.826
1.65V	71.80	44.30	32.80	26.90	22.30	19.50	17.30	15.47	14.21	13.21	11.41	8.230	6.600	5.490	4.650	3.660	3.058	2.626	2.287	2.052	1.884	1.724	1.482	0.798
1.70V	68.70	42.70	31.60	25.90	21.50	18.80	16.70	14.98	13.75	12.81	11.09	8.000	6.420	5.350	4.530	3.580	2.980	2.566	2.247	2.012	1.843	1.683	1.461	0.793
1.75V	65.40	40.80	30.40	24.90	20.80	18.10	16.10	14.49	13.32	12.43	10.77	7.780	6.240	5.210	4.410	3.480	2.921	2.507	2.188	1.971	1.802	1.662	1.421	0.792
1.80V	62.30	39.10	29.20	23.90	20.00	17.50	15.60	13.99	12.88	12.03	10.45	7.550	6.060	5.070	4.290	3.400	2.843	2.448	2.148	1.931	1.761	1.621	1.401	0.764

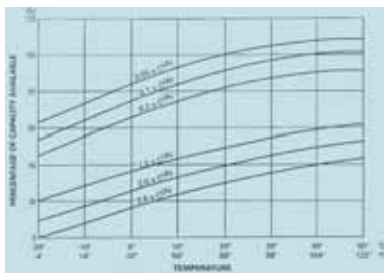
### Battery Voltage and Charge Time for Standby Use



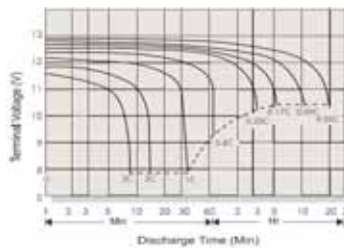
### Capacity Retention Characteristic



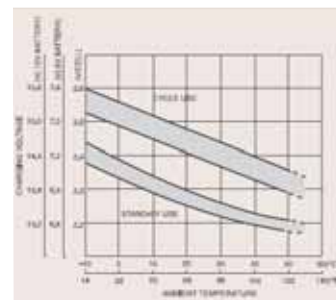
### Capacity Vs Temperature



### Discharge Curve



### Charge Voltage Vs Temperature



### Contact information

Shandong Sacred Sun Power Sources Co., Ltd.  
Add: 1, Shengyang Road, Qufu 273100 Shandong, China  
Tel: +86-537-4438 666 extn 6028 Fax: +86-537-4411 936  
Website: <http://www.abtbatt.com> E-mail: [sales@abtbatt.com](mailto:sales@abtbatt.com)

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

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