

# VTM 12A-12



## Specifications

Nominal Voltage(V) **12V**

### Nominal Capacity

20 hour rate	(0.6A	to	10.50V)	12Ah
10 hour rate	(1.14A	to	10.50V)	11.4Ah
5 hour rate	(2.04A	to	10.20V)	10.2Ah
1 C	(12A	to	9.60V)	6.4Ah
3 C	(36A	to	9.60V)	4.2Ah

Weight **Approx. 3.75kg(8.25Lbs.)**

Internal Resistance (at 1KHz) **Approx. 13 mΩ**

Maximum Discharge Current for 5 seconds: **180A**

### Charging Methods at 25°C (77°F)

Cycle use:

Charging Voltage **14.4 to 15.0V**

Coefficient **-5.0mV/°C/cell**

Maximum Charging Current : **3.6A**

Standby use:

Float Charging Voltage **13.5 to 13.8V**

Coefficient **-3.0mV/°C/cell**

### Operating Temperature Range

Charge **-15°C (5°F) to 40°C (104°F)**

Discharge **-15°C (5°F) to 50°C (122°F)**

Storage **-15°C (5°F) to 40°C (104°F)**

### Charge Retention (shelf life) at 20°C (68°F)

1 month **92%**

3 month **90%**

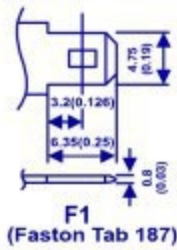
6 month **80%**

Case Material **ABS UL94 HB**

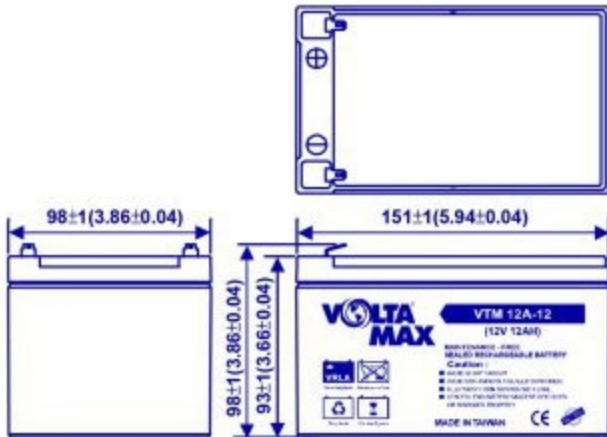
Terminal **F1 (Faston Tab 187)**

## Dimensions

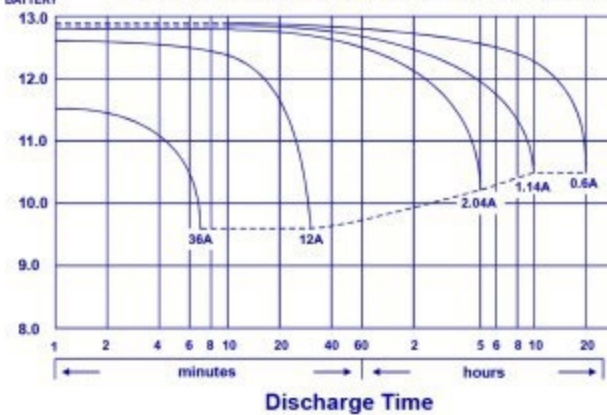
mm(inch)



F1  
(Faston Tab 187)



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



**- 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	67.6	75.2	80.8	86.7	89.3	91.9	97.0
10	min	48.0	52.5	54.9	57.3	58.2	59.5	61.0
15	min	38.6	41.0	42.6	44.1	44.5	45.4	46.6
30	min	22.2	23.6	24.6	25.4	25.7	25.9	26.3
60	min	15.8	16.3	16.7	17.0	17.2	17.3	17.5
120	min	8.63	8.92	9.04	9.14	9.18	9.24	9.32
180	min	5.65	5.87	6.05	6.20	6.27	6.35	6.42
240	min	4.78	4.88	4.96	5.06	5.12	5.20	5.26
300	min	3.96	4.08	4.18	4.30	4.33	4.38	4.48
600	min	2.34	2.40	2.44	2.47	2.48	2.50	2.52
1200	min	1.19	1.21	1.25	1.26	1.28	1.29	1.32

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

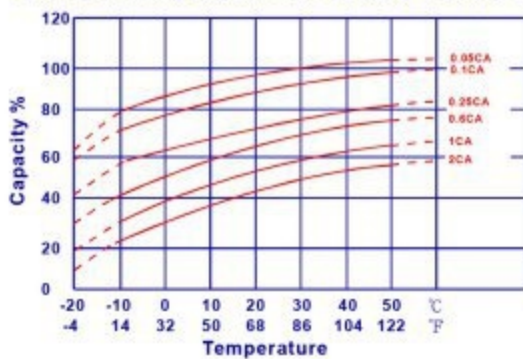
End Voltage		1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
Time								
5	min	37.2	41.4	44.5	47.7	49.1	50.6	53.4
10	min	25.7	28.1	29.4	30.7	31.2	31.9	32.7
15	min	19.8	21.3	22.1	22.9	23.2	23.5	24.2
30	min	11.4	12.1	12.6	13.0	13.1	13.3	13.5
60	min	8.21	8.40	8.52	8.63	8.68	8.74	8.82
120	min	4.21	4.36	4.47	4.56	4.59	4.63	4.68
180	min	2.87	3.06	3.13	3.19	3.22	3.25	3.29
240	min	2.38	2.43	2.47	2.52	2.55	2.58	2.62
300	min	1.97	2.03	2.08	2.14	2.16	2.19	2.23
600	min	1.16	1.18	1.20	1.22	1.23	1.24	1.25
1200	min	0.592	0.599	0.618	0.627	0.634	0.642	0.656

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

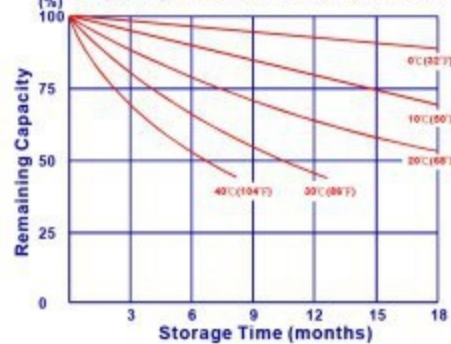
The tolerance range :  $X < 6\text{min}$  (+15%~-15%),  $6\text{min} \leq X < 10\text{min}$  (+12%~-12%),  $10\text{min} \leq X < 60\text{min}$  (+8%~-8%),  $X \geq 60\text{min}$  (+5%~-5%)



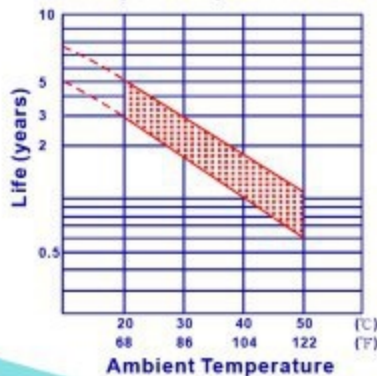
**Effect of Temperature on Capacity 25°C (77°F)**



**Capacity Retention Characteristic**



**Trickle (or float) Service Life**



**Cycle Service Life**

