



VTM 9A-12

Specifications

Nominal Voltage(V) 12V

Nominal Capacity

20 hour rate	(0.45A	to	10.50V)	9Ah
10 hour rate	(0.855A	to	10.50V)	8.55Ah
5 hour rate	(1.53A	to	10.20V)	7.65Ah
1 C	(9A	to	9.60V)	5.7Ah
3 C	(27A	to	9.60V)	3.6Ah

Weight Approx. 2.7kg(5.94Lbs.)

Internal Resistance (at 1KHz) Approx. 14 mΩ

Maximum Discharge Current for
5 seconds: 135A

Charging Methods at 25°C(77°F)

Cycle use:	
Charging Voltage	14.4 to 15.0V
Coefficient	-5.0mV/°C/cell
Maximum Charging Current :	2.7A
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)

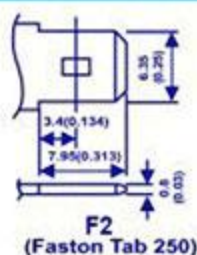
1 month	92%
3 month	90%
6 month	80%

Case Material ABS UL94 HB

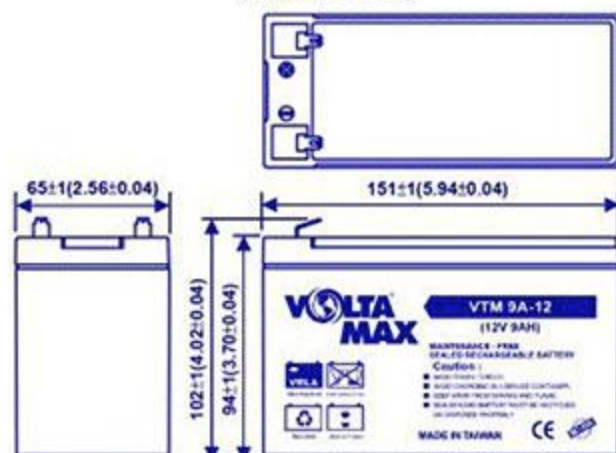
Terminal F2 (Faston Tab 250)

Dimensions

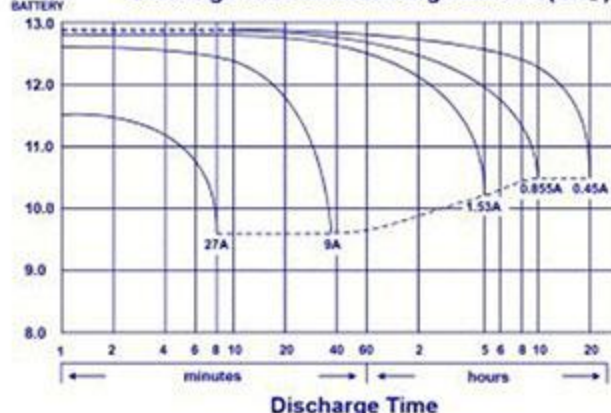
mm(inch)



F2
(Faston Tab 250)



Discharge Time VS. Discharge Current (25°C)



- PERFORMANCE DATA

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

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
5	min	342	361	388	407	419	427	448
10	min	219	234	252	264	271	277	290
15	min	181	187	194	200	204	208	216
30	min	94.7	97.3	102	106	107	108	114
60	min	59.8	62.4	64.2	65.8	66.7	67.6	68.8
120	min	32.4	33.4	34.1	34.9	35.2	35.4	35.7
180	min	25.2	26.1	26.9	27.7	28.0	28.5	29.1
240	min	20.4	21.2	21.8	22.4	22.7	23.1	23.5
300	min	17.3	17.9	18.3	18.6	18.7	18.9	19.1
600	min	9.73	10.1	10.3	10.5	10.6	10.7	10.8
1200	min	5.12	5.29	5.41	5.44	5.46	5.48	5.51

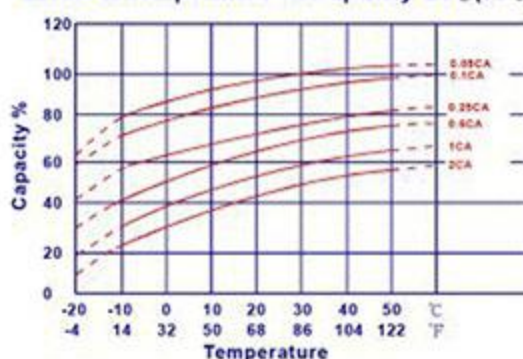
- Discharge Rates in Amperes to Various End Voltages at 25°C(77°F)

Time	End Voltage	1.85V	1.80V	1.75V	1.70V	1.67V	1.65V	1.60V
5	min	30.4	32.6	35.0	36.7	37.4	38.5	40.3
10	min	19.1	20.4	21.9	22.9	23.4	24.1	25.2
15	min	14.3	14.9	15.8	16.5	16.8	17.3	18.0
30	min	8.09	8.45	8.93	9.35	9.54	9.77	10.2
60	min	5.17	5.29	5.37	5.45	5.48	5.52	5.57
120	min	2.63	2.72	2.78	2.84	2.86	2.89	2.93
180	min	2.12	2.18	2.23	2.27	2.29	2.31	2.34
240	min	1.69	1.74	1.77	1.80	1.81	1.82	1.83
300	min	1.46	1.51	1.53	1.55	1.56	1.57	1.58
600	min	0.827	0.841	0.855	0.866	0.871	0.877	0.884
1200	min	0.427	0.442	0.451	0.456	0.459	0.462	0.466

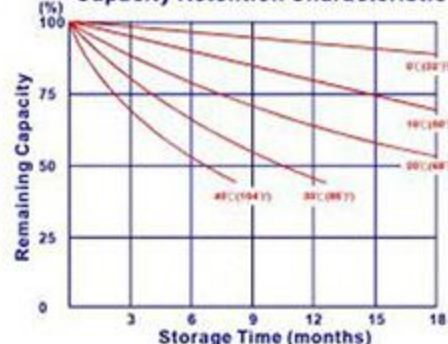
All data on the spec. sheet is an average value:

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%)

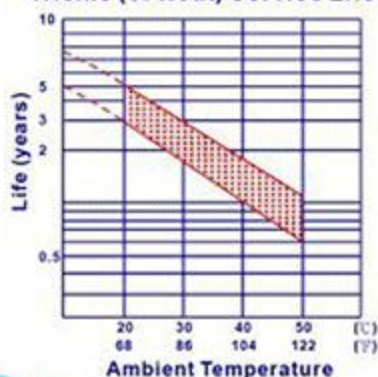
Effect of Temperature on Capacity 25°C(77°F)



Capacity Retention Characteristic



Trickle (or float) Service Life



Cycle Service Life

