



# Tropicana 12V 45Ah SMF/VRLA Battery

## TP 45- 12

### Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	45Ah@10hr-rate to 1.80V per cell @25C °
Weight	Approx. 13.5 Kg
Max. Discharge Current	450A (5 sec)
Internal Resistance	Approx. 8 mΩ
Operating Temperature Range	Discharge: -20 °C~60 °C Charge: 0C~50C ° Storage: -20C~60C °
Normal Operating Temperature Range	25C± 5C
Float charging Voltage	13.6 to 13.8 VDC/unit Average at 25C °
Recommended Maximum Charging Current Limit	13.5 A
Equalization and Cycle Service	14.6 to 14.8 VDC/unit Average at 25C °
Self Discharge	Tropicana Valve Regulated Lead Acid (VRLA) batteries can be stored for more than 6 months at 25C.° Self-discharge ratio less than 3% per month at 25C. Please charge batteries before using.
Terminal	Terminal F4/F11
Container Material	A.B.S. (UL94-HB),

Certified



9001-2008

Compliance



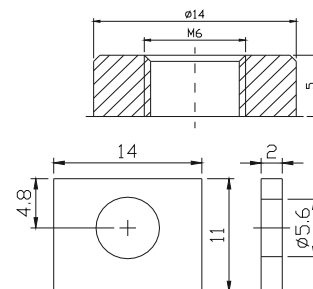
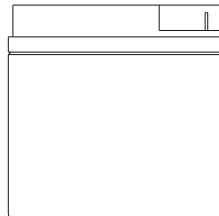
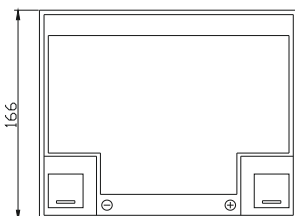
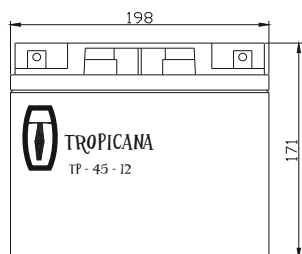
JIS 8702C,  
Pt-I,II,III



IEC 60896  
21 & 22

### Dimensions

Unit: mm Dimension: 198(L) × 166(W) × 171(H)



### Constant Current Discharge Characteristics: A (25C) °

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	150.8	111.0	86.54	52.74	29.25	17.49	12.08	10.01	8.424	5.754	4.773	2.547
10.0V	146.4	105.6	84.76	51.83	29.12	17.36	12.03	9.960	8.374	5.707	4.727	2.500
10.2V	142.1	101.9	83.43	50.87	28.85	17.23	11.94	9.913	8.325	5.661	4.681	2.454
10.5V	127.6	94.03	79.44	50.48	28.58	17.10	11.89	9.821	8.226	5.614	4.635	2.408
10.8V	115.2	85.74	73.23	49.62	27.90	16.79	11.57	9.589	8.077	5.520	4.589	2.361
11.1V	98.32	76.63	65.68	46.46	26.51	16.05	11.06	9.126	7.730	5.286	4.451	2.222

### Constant Power Discharge Characteristics: W(25C) °

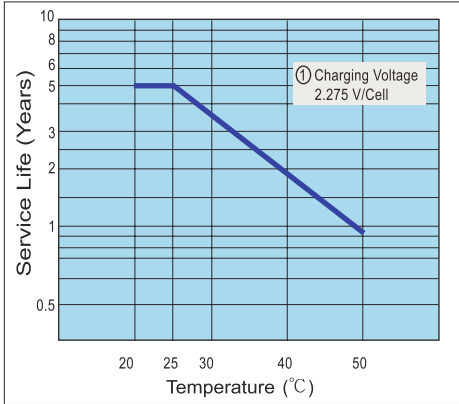
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	1591	1182	943.4	591.8	338.0	206.2	143.7	119.3	100.5	68.71	57.03	30.53
10.0V	1559	1146	928.3	584.5	337.2	205.1	143.8	119.1	100.2	68.37	56.67	30.00
10.2V	1542	1116	917.8	580.4	334.6	203.8	143.2	118.9	99.90	67.93	56.17	29.45
10.5V	1403	1039	875.5	576.4	331.6	202.4	142.6	117.7	98.71	67.37	55.62	28.89
10.8V	1278	957.8	809.2	567.1	325.5	199.8	138.7	115.1	96.93	66.24	55.07	28.34
11.1V	1123	865.9	728.4	534.2	311.5	192.4	132.7	109.5	92.76	63.44	53.42	26.67

All mentioned values are average values.

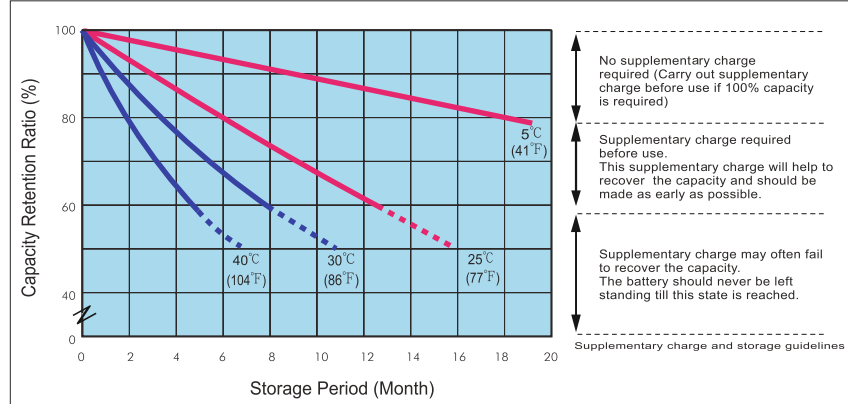


# Tropicana 12V Series SMF/VRLA Battery

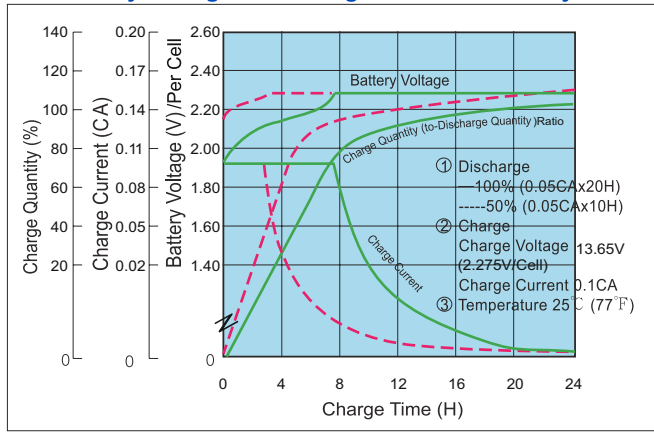
**Trickle (or Float) Service Life**



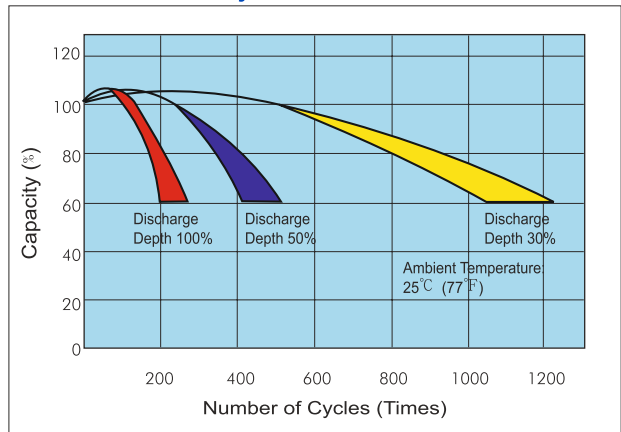
**Capacity Retention Characteristic**



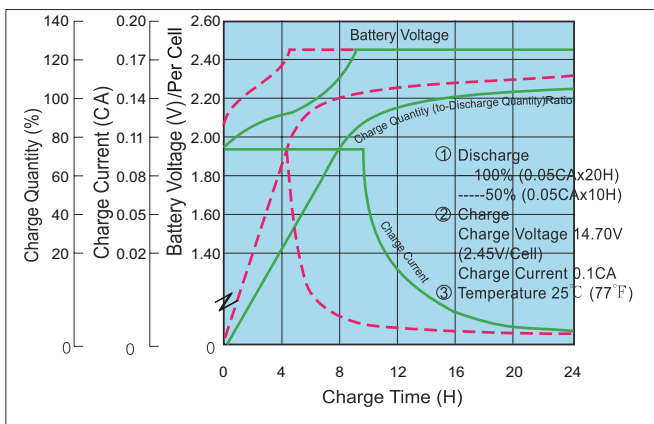
**Battery Voltage and Charge Time for Standby Use**



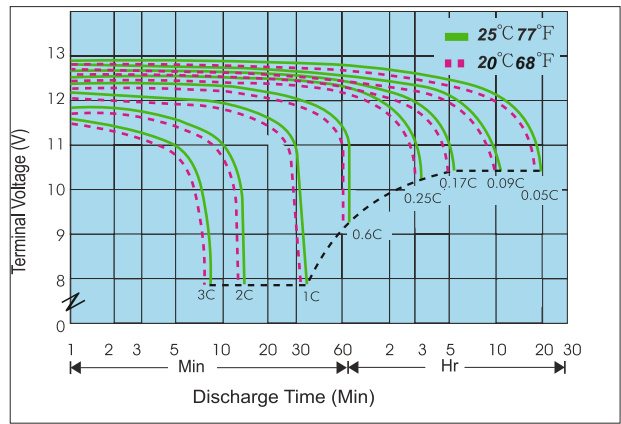
**Cycle Service Life**



**Battery Voltage and Charge Time for Cycle Use**



**Terminal Voltage (V) and Discharge Time**



**Charging Procedures**

Application	Charge Voltage(V/Cell)			Max.Charge Current
	Temperature	Set Point	Allowable Range	
Cycle Use	25°C(77°F)	2.45	2.40~2.50	0.3C
Standby	25°C(77°F)	2.275	2.25~2.30	

**Discharge Current VS. Discharge Voltage**

Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
Discharge Current(A)	0.2C>(A)	0.2C<(A)<0.5C	0.5C<(A)<1.0C	(A)>1.0C

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