



Tropicana 12V18 Ah SMF/VRLA Battery

TP 18- 12

Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	18Ah@20hr-rate to 1.75V per cell @25C °
Weight	Approx. 5.0 Kg
Max. Discharge Current	180 A (5 sec)
Internal Resistance	Approx. 14 mΩ
Operating Temperature Range	Discharge: -20 °C~60°C Charge: 0C~50C ° Storage: -20C~60C °
Normal Operating Temperature Range	25C± 5C
Float charging Voltage	13.7 to 13.9 VDC/unit Average at 25C °
Recommended Maximum Charging Current Limit	5.4 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	Faston F3/F13
Constrainer Material	A.B.S. (UL94-HB)

Certified



9001-2008

Compliance



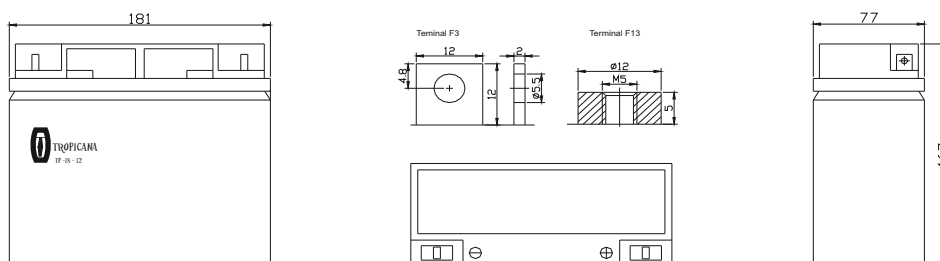
JIS 8702C,
Pt-I,II,III



IEC 60896
21 & 22

Dimensions

Unit: mm Dimension: 181(L) × 77(W) × 167(H)



Constant Current Discharge Characteristics : A(25C) °

F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	73.19	47.99	37.61	21.11	12.55	7.226	4.910	3.929	3.263	2.078	1.799	1.010
10.0V	70.55	46.79	36.41	20.84	12.20	7.080	4.820	3.875	3.208	2.070	1.781	0.973
10.2V	66.40	44.47	35.40	20.53	12.09	7.005	4.777	3.837	3.173	2.051	1.754	0.955
10.5V	59.69	41.58	33.39	19.96	11.85	6.914	4.734	3.800	3.135	2.033	1.745	0.927
10.8V	53.48	38.78	31.50	19.30	11.64	6.857	4.679	3.781	3.102	2.025	1.716	0.873
11.1V	46.79	35.55	29.06	18.57	11.32	6.581	4.587	3.748	3.070	2.009	1.689	0.858

Constant Power Discharge Characteristics : W(25C) °

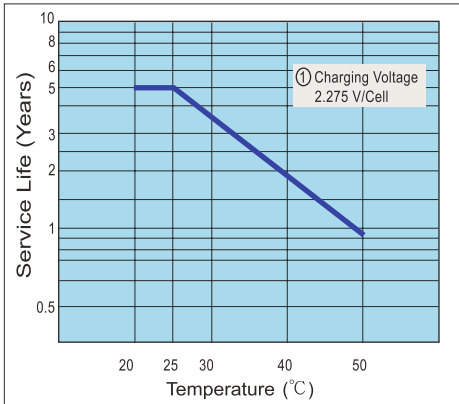
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	4HR	5HR	8HR	10HR	20HR
9.60V	770.0	510.4	402.7	241.7	145.7	84.30	57.40	46.50	38.63	24.89	21.56	12.10
10.0V	749.9	499.8	396.9	239.2	143.5	83.58	57.28	46.39	38.43	24.79	21.35	11.67
10.2V	713.3	480.0	391.7	237.1	142.5	83.05	57.07	46.01	38.06	24.60	21.15	11.46
10.5V	651.0	460.2	371.3	232.3	140.6	82.38	56.83	45.59	37.61	24.40	20.93	11.13
10.8V	587.4	430.5	350.8	226.8	138.3	81.70	56.17	45.42	37.22	24.29	20.61	10.49
11.1V	518.0	400.8	330.4	220.6	135.7	78.88	55.07	44.96	36.86	24.12	20.31	10.32

All mentioned values are average values.

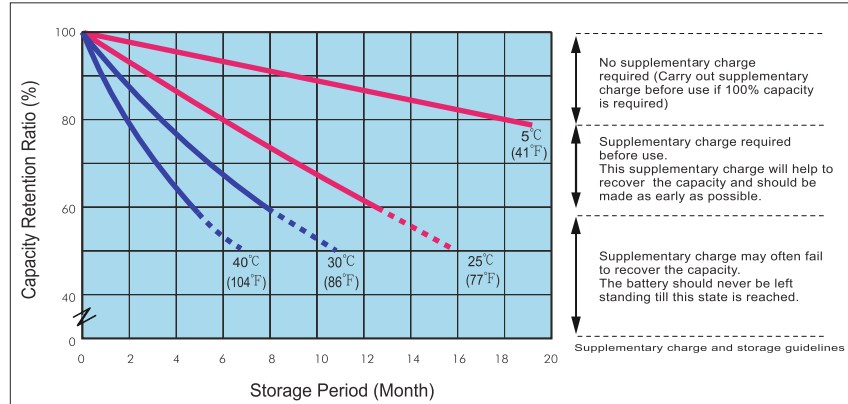


Tropicana 12V Series SMF/VRLA Battery

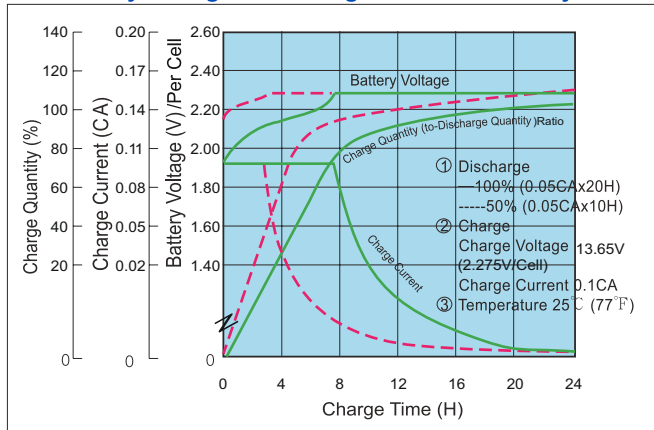
Trickle (or Float) Service Life



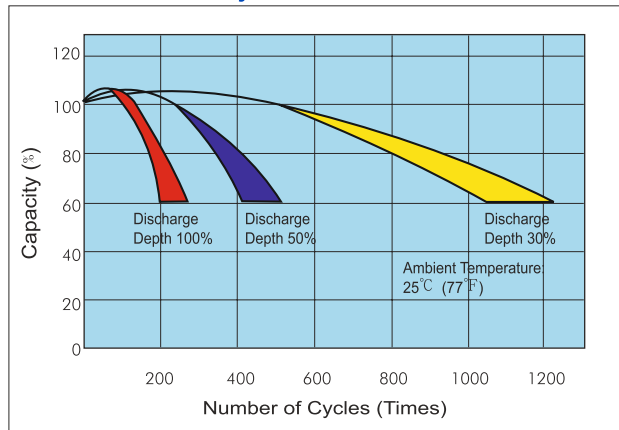
Capacity Retention Characteristic



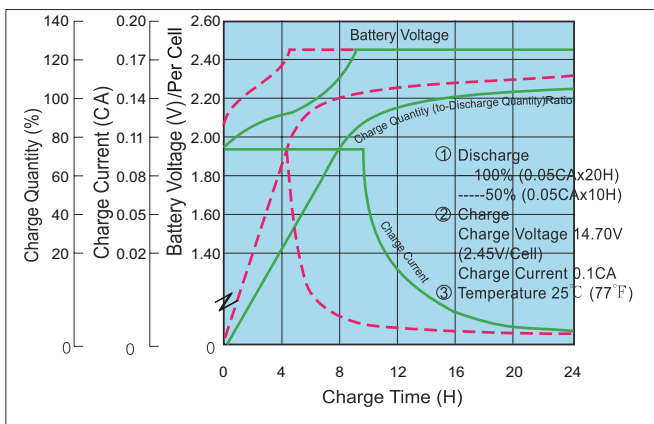
Battery Voltage and Charge Time for Standby Use



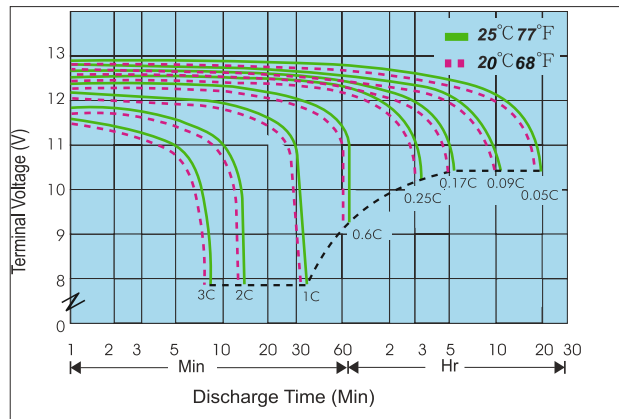
Cycle Service Life



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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