

General Application

The Solar Series is highly suited for cyclic applications such as Wheelchair, Solar, Marine or Wind Turbine power systems applications. By combining the newly developed Gel Electrolyte with high density paste, VCELL created an innovative range of Solar Batteries. The range offers high recharge efficiency at very low charge current. The acid Stratification is highly depressed by adding of Gel.

Specification

• NOMINAL VOLTAGE(V)	: 12
• CAPACITY(25°C)	: 32 Ah@20HR-rate (1.60A, 1.80V) : 28.8 Ah@10HR-rate (2.98A, 1.75V) : 25.6 Ah@5HR-rate (5.12A, 1.75V) : 22.3 Ah@3HR-rate (7.43A, 1.75V) : 18.24 Ah@1HR-rate (18.24A, 1.67V)
• DIMENSIONS	
TOTAL HEIGHT	: 178 mm (7.01 inches)
CONTAINER HEIGHT	: 164 mm (6.46 inches)
LENGTH	: 195 mm (7.68 inches)
WIDTH	: 130 mm (5.12 inches)
• WEIGHT	: APPROX 9 Kg (19.85 lbs)
• CONTAINER MATERIAL	: ABS
• INTERNAL RESISTANCE(25°C)	: Approx.0.0146Ω
• MAX. DISCHARGE CURRENT(5S)	: 300A
• CAPACITY AFFECTED BY TEMP.	
40°C	: ~103%
25°C	: ~100%
0 °C	: ~86%

Characteristics

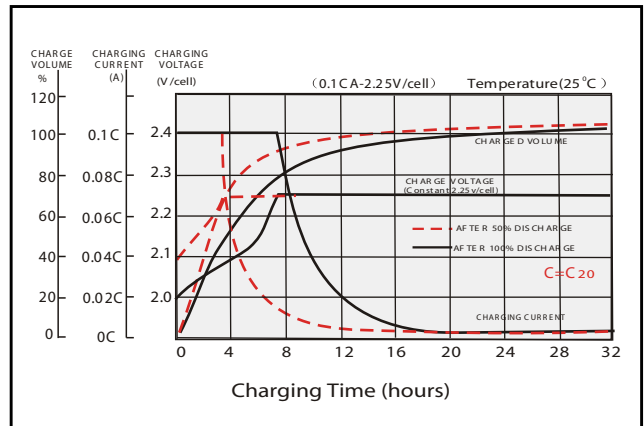
• CYCLE USE CHARGE VOLTAGE(25°C)	: 14.4~15.0V (-30mV/°C), initial charging current less than 9A
• STANDBY USE CHARGE VOLTAGE(25°C)	: 13.5~13.8V (-20mV/°C)
• SELF DISCHARGE: Solar series batteries may be stored for up to 9 months at 25°C and then a freshening charge is required. For higher temperature the time interval will be shorter.	

Operating Temperature

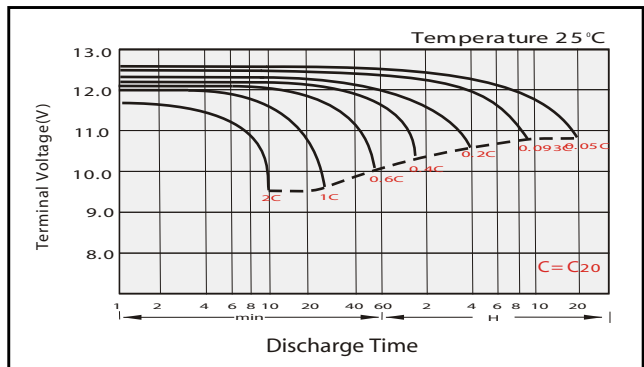
• Operating Temp. Range	
Discharge	: -20~55°C
Charge	: 0~40 °C
Storage	: -20~50°C
• Nominal Operating Temp. Range	: 25±3°C

SOLAR12-32 12V32Ah

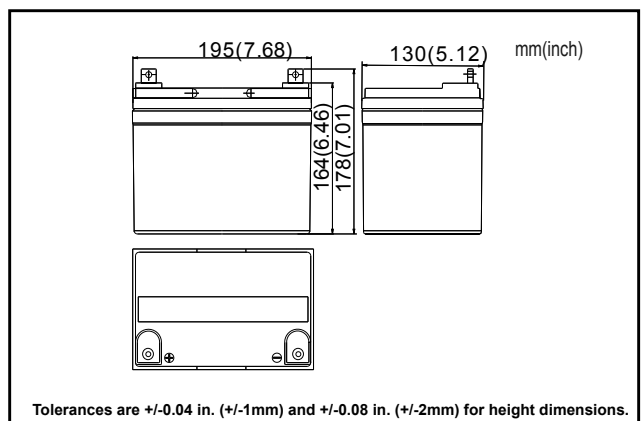
Float Charging Characteristic



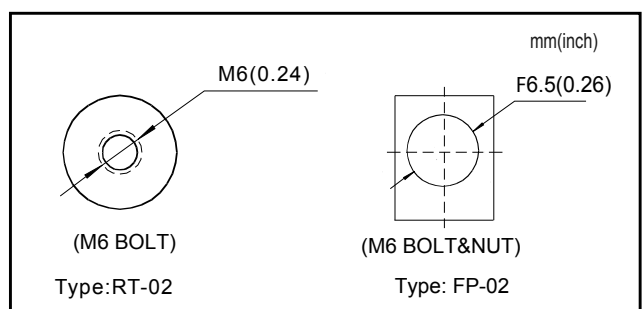
Discharge Characteristics



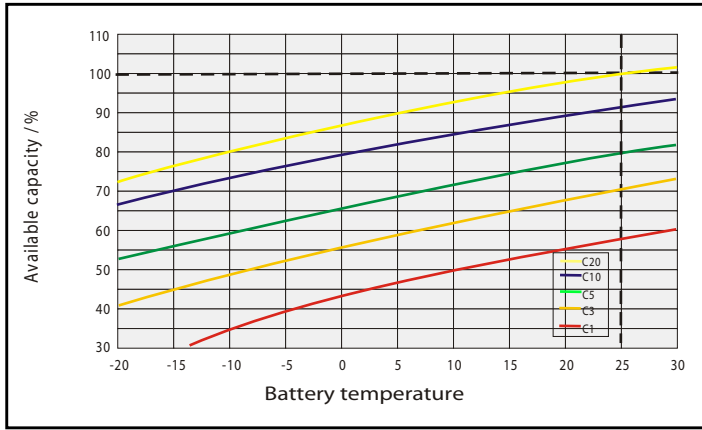
Dimensions



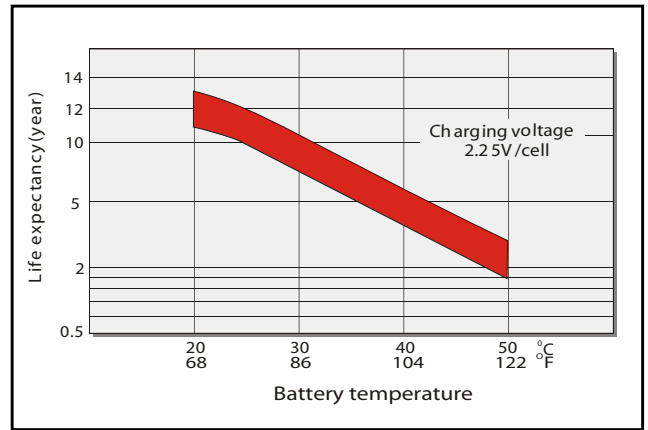
Terminal



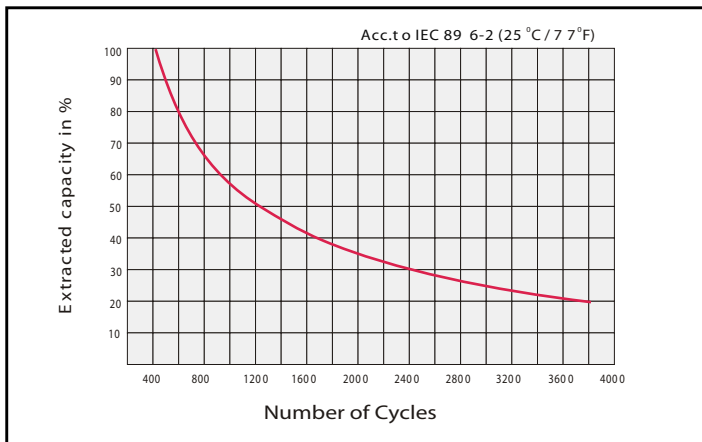
Temperature vs Battery capacity



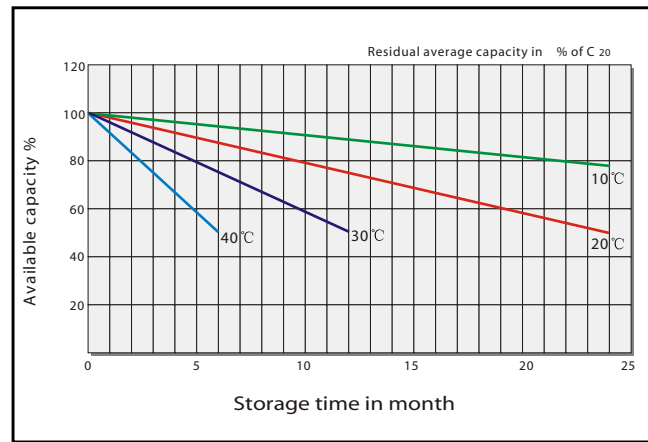
Temperature vs Float life



Depth of Discharge VS Cycle Life @25 °C



Capacity vs Storage Time



Constant Current Discharge (Amperes) @ 25 °C(77 °F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	27.09	21.23	16.21	14.08	8.61	6.56	5.43	4.69	4.05	3.58	3.23	2.95	2.70	1.54
1.80V/cell	31.04	23.79	17.92	15.57	9.31	7.03	5.76	4.93	4.26	3.75	3.39	3.10	2.83	1.60
1.75V/cell	34.88	26.13	19.31	16.64	9.88	7.42	6.04	5.12	4.41	3.88	3.50	3.20	2.88	1.63
1.70V/cell	37.55	27.95	20.48	17.60	10.46	7.73	6.23	5.28	4.55	4.01	3.61	3.29	2.94	1.65
1.67V/cell	39.04	29.01	21.23	18.24	10.77	7.98	6.39	5.39	4.63	4.07	3.66	3.33	2.99	1.66
1.60V/cell	42.35	31.15	22.83	19.41	11.20	8.30	6.62	5.56	4.75	4.16	3.72	3.40	3.04	1.70

Constant Power Discharge (Watts/cell) @ 25 °C(77 °F)

F.V/Time	20min	30min	45min	1h	2h	3h	4h	5h	6h	7h	8h	9h	10h	20h
1.85V/cell	51.84	40.96	31.47	27.41	16.85	12.80	10.67	9.26	8.02	7.11	6.43	5.89	5.39	3.06
1.80V/cell	58.56	45.33	34.45	30.08	18.13	13.76	11.31	9.70	8.39	7.42	6.72	6.18	5.62	3.19
1.75V/cell	65.07	49.39	36.91	32.00	19.09	14.51	11.73	10.04	8.66	7.67	6.92	6.36	5.73	3.25
1.70V/cell	69.33	52.48	38.93	33.71	20.16	15.04	12.16	10.33	8.95	7.91	7.11	6.52	5.86	3.29
1.67V/cell	71.36	53.87	40.00	34.77	20.59	15.47	12.37	10.51	9.07	8.00	7.21	6.58	5.91	3.32