

## 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)	: 200 Ah@20HR-rate (10.0A, 1.80V) : 186 Ah@10HR-rate (18.6A, 1.75V) : 160 Ah@5HR-rate (32.0A, 1.75V) : 139.2 Ah@3HR-rate (46.4A, 1.75V) : 110Ah@1HR-rate (110.0A, 1.67V)
• DIMENSIONS	
TOTAL HEIGHT	: 224 mm ( 8.81 inches )
CONTAINER HEIGHT	: 218 mm ( 8.58 inches )
LENGTH	: 522 mm ( 20.55 inches )
WIDTH	: 240 mm ( 9.45 inches )
• WEIGHT	: APPROX 62.9 Kg ( 138.7 lbs)
• CONTAINER MATERIAL	: ABS
• INTERNAL RESISTANCE( 25°C )	: Approx.0.003Ω
• MAX. DISCHARGE CURRENT(5S)	: 1800A
• CAPACITY AFFECTED BY TEMP.	
40°C	: ~103%
25°C	: ~100%
0 °C	: ~86%

## Characteristics

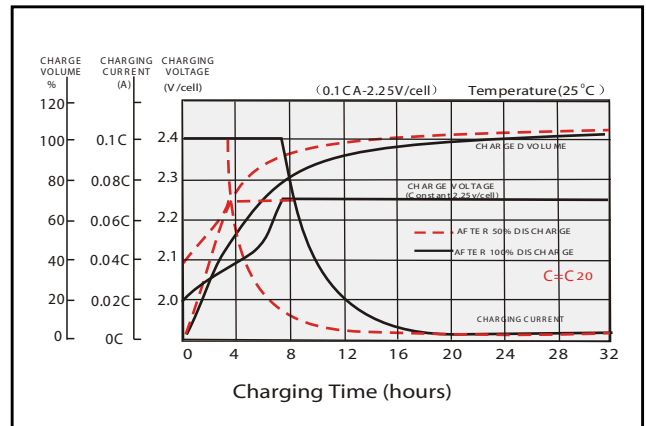
- CYCLE USE CHARGE VOLTAGE(25 °C)  
: 14.4~15.0V  
(-30mV/°C), initial charging current less than 50.0A
- STANDBY USE CHARGE VOLTAGE(25°C) : 13.5~13.8V  
(-20mV/°C)
- SELF DISCHARGE: Solar series batteries may be stored for up to 9 months at 25°C and then a freshening charge is required. For higher temperature the time interval will be shorter.

## Operating Temperature

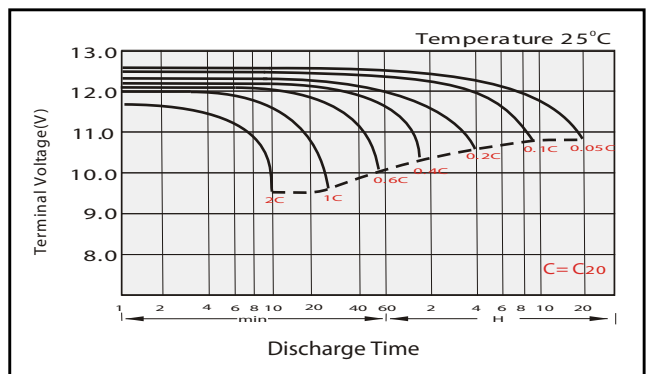
- Operating Temp. Range
  - Discharge : -20~55°C
  - Charge : 0~40 °C
  - Storage : -20~50°C
- Nominal Operating Temp. Range : 25±3 °C

## SOLAR12-200 12V200Ah

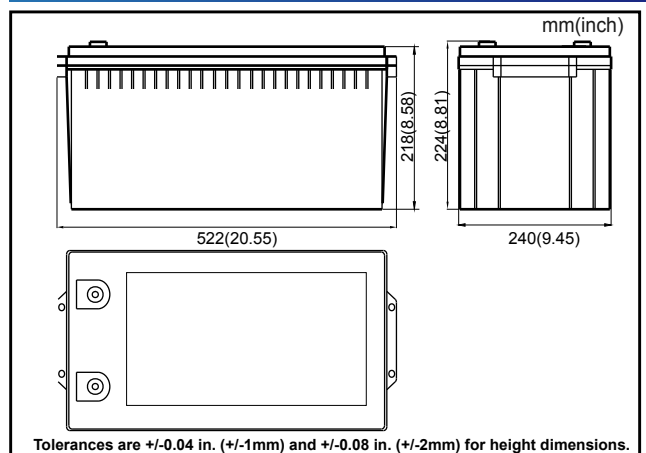
### Float Charging Characteristic



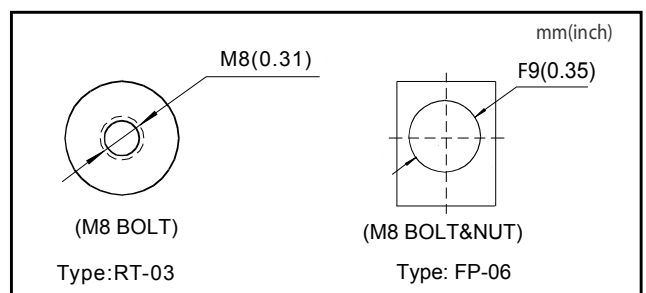
### Discharge Characteristics @25 °C



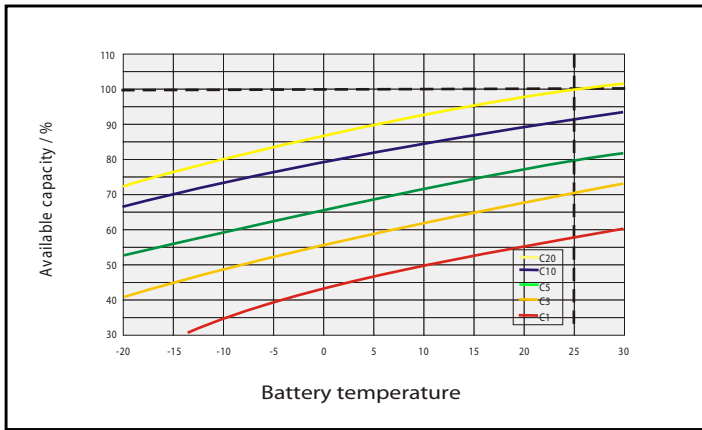
### Dimensions



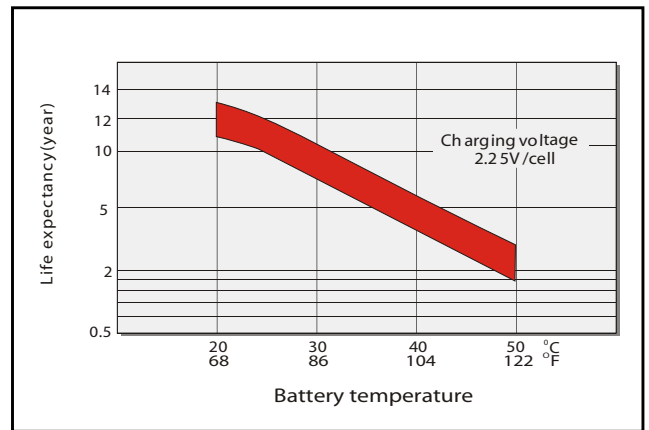
### Terminal



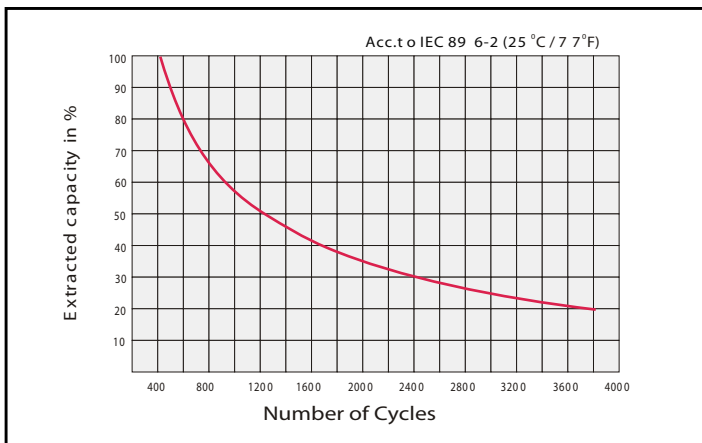
## Temperature vs Battery capacity



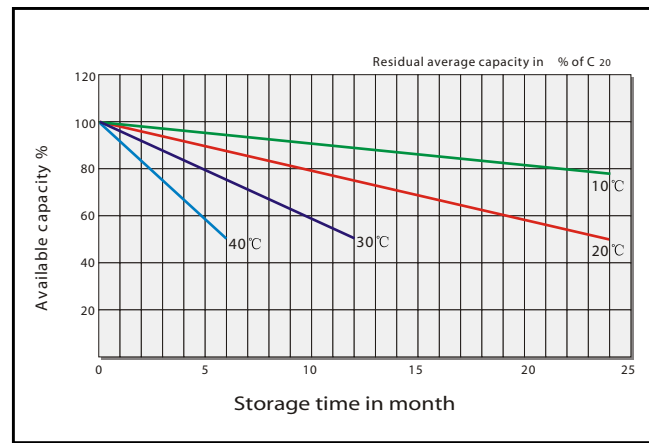
## Temperature vs Float life



## 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	169.2	132.8	101.3	84.8	53.8	41.0	34.0	29.3	25.3	22.4	20.2	18.5	17.5	9.60
1.80V/cell	193.8	148.4	111.7	93.6	58.2	43.9	36.0	30.8	26.6	23.5	21.2	19.4	18.2	10.0
1.75V/cell	217.8	163.2	120.8	100.2	61.7	46.4	37.7	32.0	27.5	24.3	21.9	20.0	18.6	10.2
1.70V/cell	234.6	174.8	128.3	106.0	65.4	48.3	39.0	33.0	28.5	25.1	22.5	20.5	19.0	10.3
1.67V/cell	244.2	181.6	132.8	110.0	67.1	49.9	39.9	33.7	28.9	25.5	22.9	20.8	19.3	10.4
1.60V/cell	264.6	194.4	142.7	116.8	69.8	51.9	41.4	34.7	29.6	26.0	23.3	21.2	19.6	10.6

## 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	323.8	255.9	196.5	165.1	105.1	80.3	66.8	57.9	50.1	44.5	40.2	36.8	34.8	19.2
1.80V/cell	366.1	283.3	215.1	181.3	113.3	85.8	70.5	60.6	52.4	46.4	42.0	38.6	36.3	19.9
1.75V/cell	406.9	308.7	230.8	193.1	119.6	90.4	73.6	62.7	54.1	47.9	43.3	39.7	37.0	20.3
1.70V/cell	433.5	327.8	243.3	203.1	126.2	93.9	75.9	64.5	55.9	49.4	44.5	40.7	37.8	20.5
1.67V/cell	446.2	337.0	250.2	209.6	128.8	96.4	77.5	65.7	56.7	50.0	45.1	41.1	38.2	20.7
1.60V/cell	478.1	357.3	266.8	221.3	133.4	99.8	80.2	67.5	57.8	51.0	45.8	42.0	38.9	21.0