VTG12-55 (12V 55AH/20HR)
High Temperature Deep Cycle GEL Battery

The Valiant VTG series deep cycle Gel battery uses an advanced nano gel electrolyte with Super-C additive and heavy-duty plate design to provide longer service life in deep cycle applications. The VTG series provides optimum and reliable service under extreme temperatures and frequent power failures making it highly suited for out door applications such as off-grid solar systems, RV, and telecom/UPS systems.

12V 55Ah | **GEL Technology** | **Deep Cycle**

Applications

- Off-grid solar systems
- RV and Marine
- UPS/Telecom
- Floor Scrubber
- Wheel chair, Golf cart

General Features

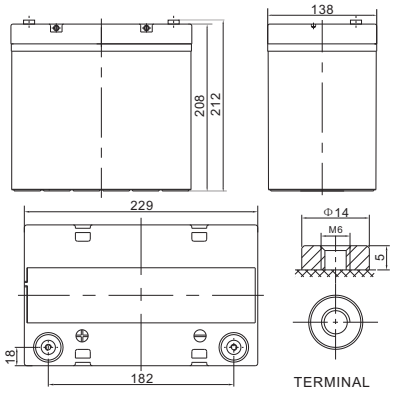
- Operating range of -40 to+ 60 ℃
- Deep discharge recovery,1600 cycles @50%DOD
- 2-3 year full warranty in most applications
- Longer life and greater stability in extreme temperatures

COMPLIED STANDARDS

IEC 60896-21/22	JIS C8704
YD/T799	BS6290 part4
GB/T 19638	CE

Dimensions & Weight

Length(mm/inch)	229/9.02
Width(mm/inch)	138/54.3
Height(mm/inch)	208/8.19
Total Height(mm/inch)	212/8.35
Weigt(kg/lbs)(±3%)	16.2/35.7



Technical Specifications

Nominal Voltage		12V (6 cells per unit)
Design Floating Life @ 25℃		15 Years
Nominal Capacity @ 25℃	20 hour rate@ 2.75A,10.8V	55Ah
Capacity @ 25℃	10 hour rate (5.0A, 10.8V)	50Ah
	5 hour rate (8.8A, 10.5V)	44Ah
	1 hour rate (36.6A,9.6V)	36.6Ah
Internal Resistance	Full Charged Battery@ 25℃	≤10mΩ
Ambient Temperature	Discharge	-25°C ~ 60°C
	Charge	-25°C ~ 60°C
	Storage	-25°C ~ 60°C
Max.Discharge Current		@ 25°C 330A(5s)
Capacity affected by Temperature (10 hour)	40℃	108%
	25℃	100%
	0℃	90%
	-15℃	70%
Self-Discharge@25℃per Month		3%
Charge (Constant Voltage) @ 25°C	Standby Use	Initial Charging Current Less than 12.5A Voltage 13.6 -13.8V
	Cycle Use	Initial Charging Current Less than 12.5A Voltage 14.4 -14.9V

Battery Discharge Table

Discharge Constant Current per Cell (Amperes at 25°C)

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	88.9	54.1	36.3	33.6	19.4	13.6	9.3	6.1	5.4	2.97	0.66
1.65V	87.3	53.2	35.6	33.0	19.0	13.4	9.1	6.0	5.3	2.92	0.65
1.70V	85.7	52.2	35.0	32.4	18.7	13.1	8.9	5.9	5.2	2.86	0.63
1.75V	84.1	51.2	34.3	31.7	18.3	12.9	8.8	5.8	5.1	2.81	0.62
1.80V	80.9	49.2	33.0	30.5	17.6	12.4	8.4	5.6	5.0	2.75	0.61

Discharge Constant Power per Cell (Watts at 25°C)

F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	171.2	104.2	69.9	64.6	37.3	26.2	17.8	11.8	10.5	5.7	1.27
1.65V	168.1	102.3	68.6	63.5	36.6	25.7	17.5	11.5	10.3	5.6	1.25
1.70V	165.0	100.4	67.3	62.3	36.0	25.3	17.2	11.3	10.1	5.5	1.22
1.75V	161.9	98.5	66.1	61.1	35.3	24.8	16.8	11.1	9.9	5.4	1.20
1.80V	155.6	94.8	63.5	58.8	33.9	23.8	16.2	10.7	9.5	5.3	1.18

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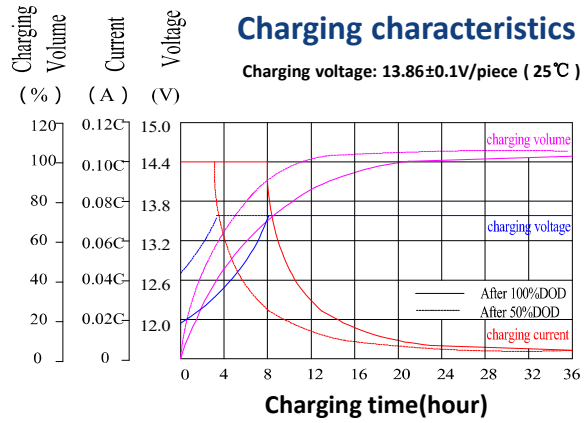
Performance Characteristics

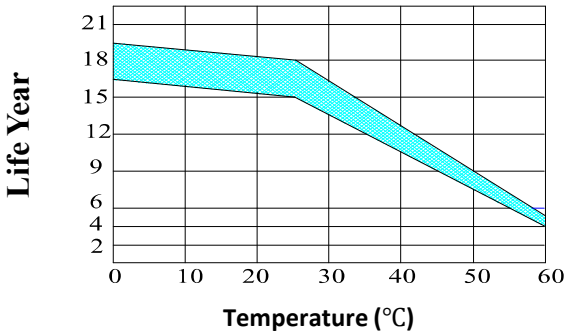
Charging characteristics

Charging voltage: 13.86±0.1V/piece (25℃)



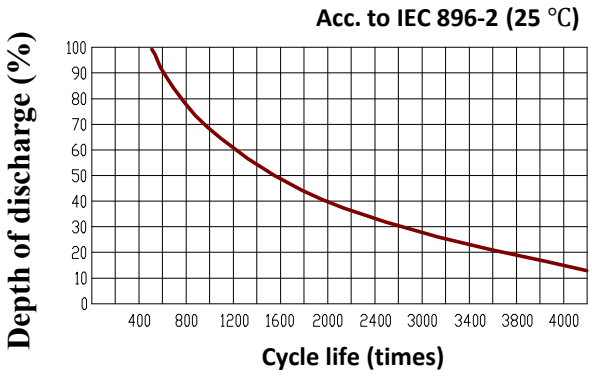
Temperature effort on design float life

Float Charging Voltage: 13.7±0.1V (25℃)

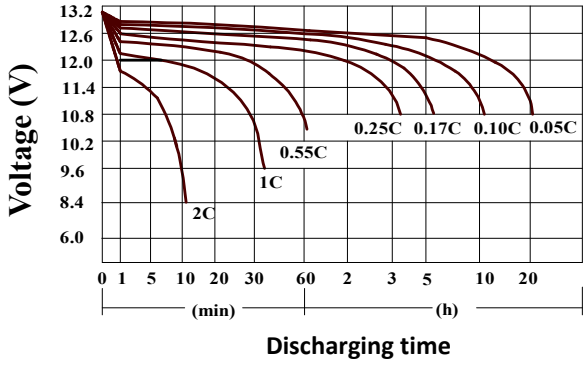


Cycle life vs. Depth of Discharge (25℃)

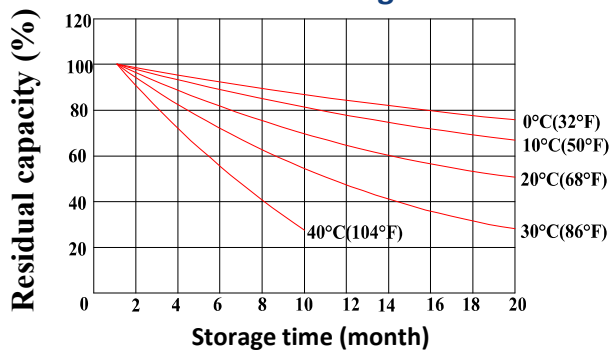
Acc. to IEC 896-2 (25 ℃)



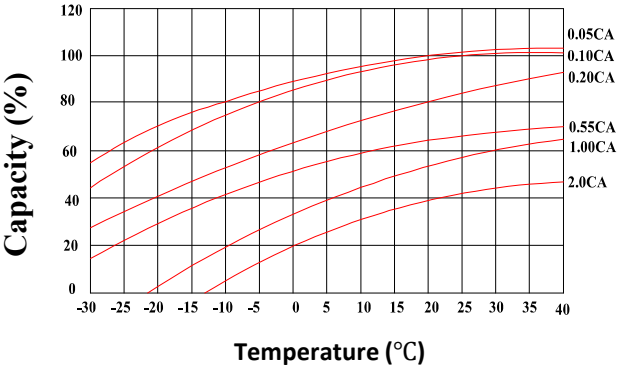
Discharge characteristics (25℃)



Temperature effort on battery self-discharge



Temperature effect on capacity



Battery Construction

Component	Positive Plate	Negative Plate	Container & Cover	Safety Valve	Terminal	Separator	Electrolyte	Pillar Seal
Features	Thick high Sn low Ca grid with special paste	Balanced Pb-Ca grid for improved recombination efficiency	Fire resistant ABS (UL94-V0 optional)	Flame Si-Rubber and aging resistant	Female Copper Insert M6	Advanced AGM separator for high pressure cell design	Silicon Gel	Two layers epoxy resin seal