

High Temperature Deep Cycle GEL Battery

VTG12-40

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 outdoor applications such as off-grid solar systems, RV, and telecom/UPS systems.

12V
Voltage40Ah
CapacityGel
TechnologyDeep
Cycle

COMPLIED STANDARDS

IEC 60896-21/22 JIS C8704
IEC61427 BS6290 part4
GB/T 19638 CE/ISO

GENERAL FEATURES

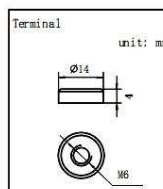
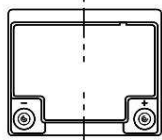
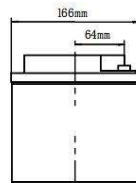
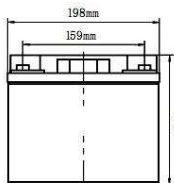
- Operating range of -40 to +60C
- Deep discharge recovery, 1600 cycles @ 50%DOD
- 1-2 year full warranty in most applications
- Longer life and greater stability in extreme temperatures

APPLICATIONS

- Off-grid solar systems
- RV
- UPS /Telecom
- Floor scrubber
- Wheel chair, Golf cart

DIMENSIONS & WEIGHT

Length (mm)	198±1
Width (mm)	166±1
Height (mm)	174±1
Total Height (mm)	174±1
Weight (kg)	14.0±3%



TECHNICAL SPECIFICATIONS

Nominal Voltage		12V (6 cells per unit)
Design Floating Life @25°C		15 Years
Nominal Capacity @25°C (20 hour rate@2.0A,10.8V)		40Ah
Capacity @25°C	10hour rate (3.6A,10.8V)	36Ah
	5 hour rate (6.4A,10.5V)	32Ah
	1 hour rate (24.4A,9.6V)	24.4Ah
Internal Resistance	Full Charged Battery@25°C	≤11mΩ
Ambient Temperature	Discharge	-25°C~60°C
	Charge	-25°C~60°C
	Storage	-25°C~60°C
Max.Discharge Current@25°C		240A(5s)
Capacity affected by Temperature (10 hour rate)	40°C	108%
	25°C	100%
	0°C	90%
	-15°C	70%
Self-Discharge@25°C per Month		3%
Charge (Constant Voltage) @25°C	Standby Use	Initial Charging Current Less than 9.0A Voltage 13.6-13.8V
	Cycle Use	Initial Charging Current Less than 9.0A Voltage 14.4-14.9V

BATTERY DISCHARGE TABEL

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	64.7	39.4	26.4	24.4	14.1	9.9	6.7	4.4	4.0	2.16	0.48
1.65V	63.5	38.7	25.9	24.0	13.8	9.7	6.6	4.4	3.9	2.12	0.47
1.70V	62.3	37.9	25.4	23.5	13.6	9.5	6.5	4.3	3.8	2.08	0.46
1.75V	61.2	37.2	25.0	23.1	13.3	9.4	6.4	4.2	3.7	2.04	0.45
1.80V	58.8	35.8	24.0	22.2	12.8	9.0	6.1	4.0	3.6	2.00	0.44

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

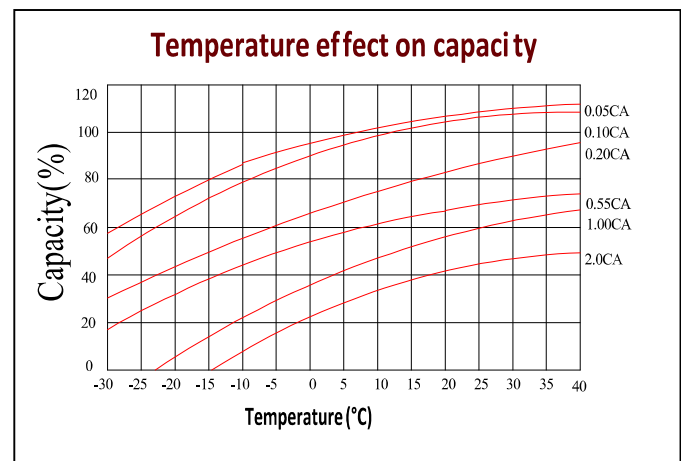
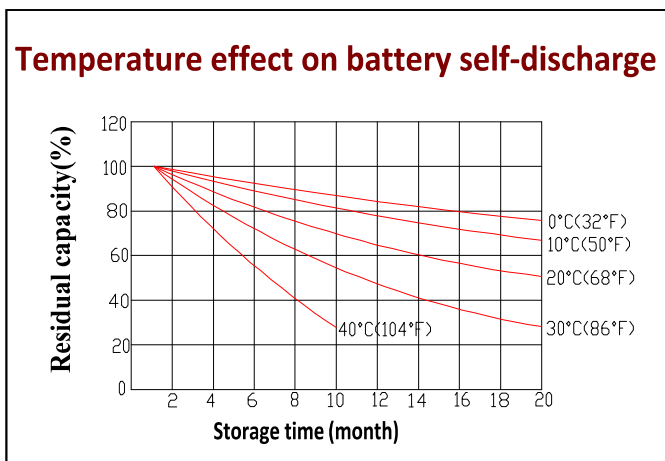
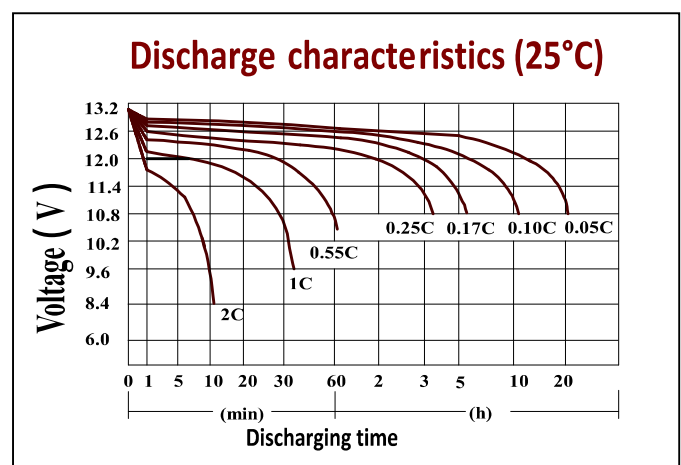
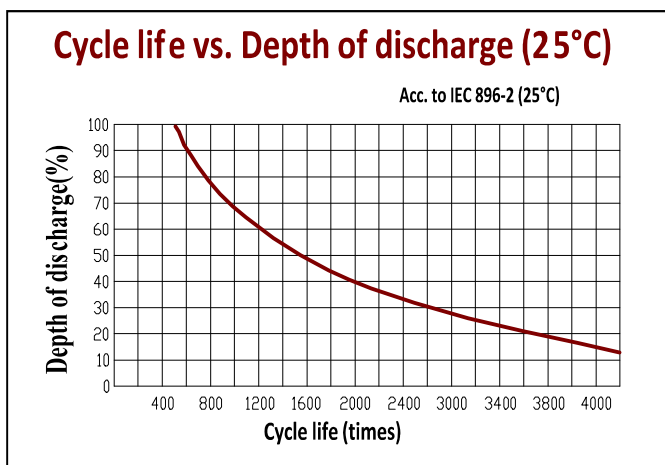
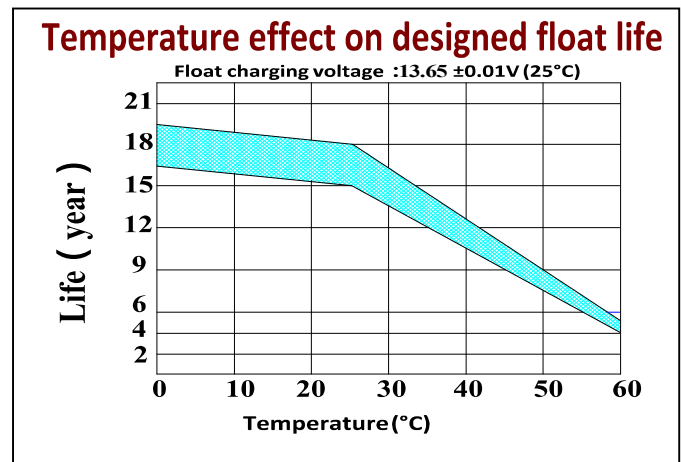
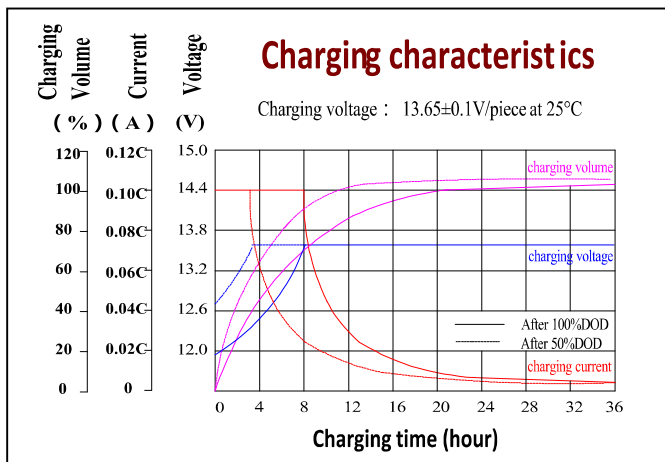
F.V/Time	15min	30min	45min	1h	2h	3h	5h	8h	10h	20h	100h
1.60V	124.5	75.8	50.8	47.0	27.1	19.1	13.0	8.6	7.6	4.2	0.92
1.65V	122.2	74.4	49.9	46.2	26.7	18.7	12.7	8.4	7.5	4.1	0.91
1.70V	120.0	73.0	49.0	45.3	26.2	18.4	12.5	8.2	7.3	4.0	0.89
1.75V	117.7	71.7	48.0	44.4	25.7	18.0	12.3	8.1	7.2	3.9	0.87
1.80V	113.2	68.9	46.2	42.7	24.7	17.3	11.8	7.8	6.9	3.9	0.85

The above data is based on average values and can typically be achieved within 3 charge/discharge cycles. Battery designs and specifications are subject to change without notice. Contact Valiant for the latest information.

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PERFORMANCE CHARACTERISTICS



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 resistance ABS (UL94-V0 optional)	Flame Si-Rubber and aging resistance	Female Copper Insert M6	Advanced PVC /AGM separator for high pressure cell design	Silicon Gel	Two layers epoxy resin seal