

Sealed Lead-Acid Battery General Purpose GEL

727-0451(12V31Ah)

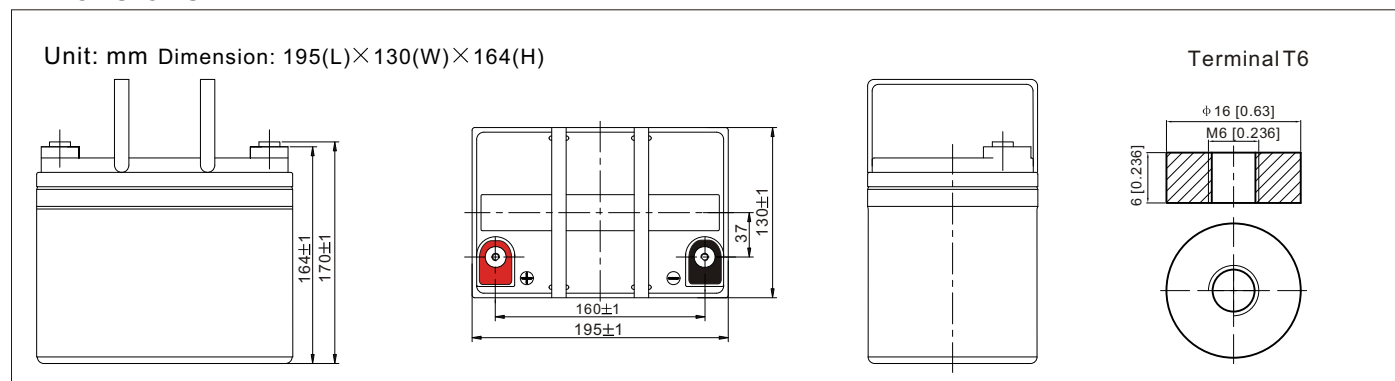
Specification

Cells Per Unit	6
Voltage Per Unit	12
Capacity	31.0Ah@20hr-rate to 1.80V per cell @25°C
Weight	Approx 10.7kg
Max. Discharge Current	310A (5 sec)
Internal Resistance	Approx 14.6mΩ
Operating Temp.Range	Discharge : -15~50°C (5~122°F) Charge : 0~40°C (32~104°F) Storage : -15~40°C (5~104°F)
Nominal Operating Temp. Range	25±3°C (77±5°F)
Float charging Voltage	13.5 to 13.8 VDC/unit Average at 25°C
Recommended Maximum Charging Current Limit	7.75A
Equalization and Cycle Service	14.4 to 15.0 VDC/unit Average at 25°C
Self Discharge	The batteries can be stored for more than 6 months at 25°C. Self-discharge ratio less than 3% per month at 25°C. Please charge batteries before using.
Terminal	T6
Container Material	A.B.S. (UL94-HB) , Flammability resistance of UL94-V0 can be available upon request.

Applications

- ◆ Telecommunications
- ◆ Solar system
- ◆ Wind power system
- ◆ Engine starting
- ◆ Wheelchair
- ◆ Floor cleaning machines
- ◆ Golf trolley
- ◆ Boats

Dimensions



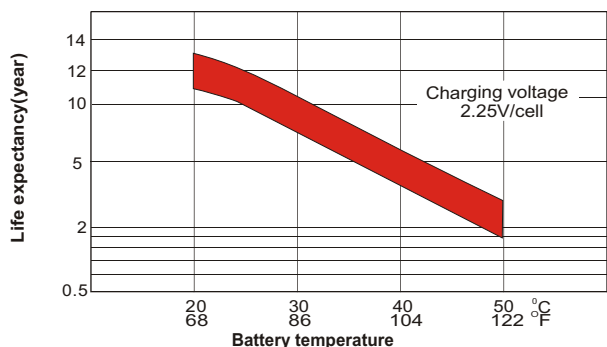
Constant Current Discharge Characteristics : A (25 °C)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
11.1V	45.0	33.3	28.5	26.2	20.6	15.7	13.1	8.34	6.36	5.26	4.54	3.92	3.13	2.71	1.49
10.8V	54.7	38.9	33.1	30.0	23.0	17.3	14.5	9.02	6.81	5.58	4.77	4.12	3.28	2.83	1.55
10.5V	64.7	45.0	37.8	33.8	25.3	18.7	15.5	9.56	7.19	5.84	4.96	4.26	3.39	2.88	1.58
10.2V	76.3	51.7	42.0	36.4	27.1	19.9	16.4	10.1	7.49	6.04	5.12	4.41	3.49	2.95	1.60
9.90V	82.6	54.9	43.9	37.9	28.1	20.6	17.1	10.4	7.73	6.18	5.22	4.48	3.54	2.99	1.62
9.60V	92.3	60.3	47.2	41.0	30.1	22.1	18.1	10.8	8.04	6.42	5.38	4.59	3.60	3.04	1.64

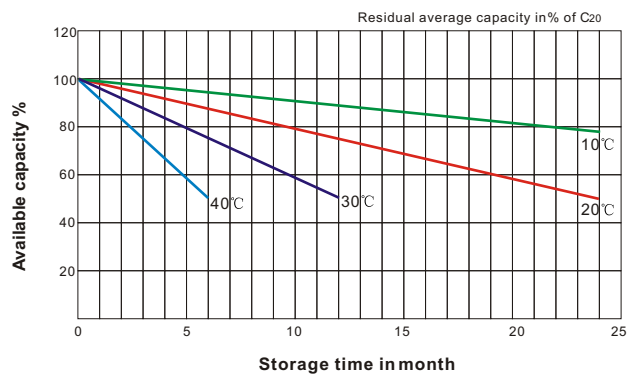
Constant Power Discharge Characteristics : W (25 °C)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	2h	3h	4h	5h	6h	8h	10h	20h
11.1V	508.5	377.8	325.3	301.2	238.0	182.7	153.5	97.8	74.7	62.1	53.8	46.6	37.4	32.4	17.8
10.8V	608.0	434.5	372.1	340.5	263.5	200.0	168.6	105.3	79.8	65.6	56.3	48.8	39.1	33.8	18.5
10.5V	704.9	494.2	419.1	378.4	287.1	214.7	179.6	111.3	84.1	68.5	58.4	50.4	40.2	34.4	18.9
10.2V	814.0	558.4	459.5	403.2	304.8	226.3	188.9	117.4	87.3	70.6	60.0	52.0	41.4	35.2	19.1
9.90V	866.1	583.3	472.5	414.9	313.4	232.7	194.9	119.8	89.7	72.1	61.1	52.7	41.9	35.5	19.3
9.60V	948.8	628.4	500.3	444.7	332.3	248.1	205.8	124.1	92.9	74.5	62.8	53.8	42.6	36.2	19.5

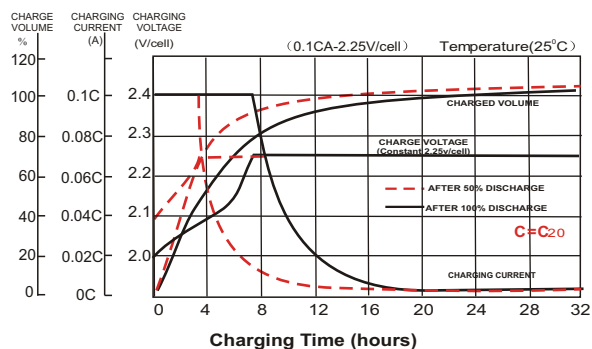
Effect of Temperature on Long Term Float Life



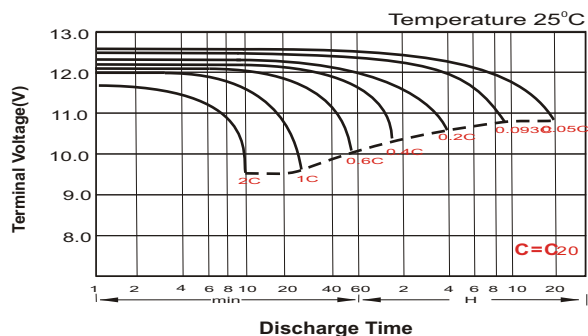
Self Discharge Characteristics



Float Charging Characteristics



Discharge Characteristics



Capacity Factors With Different Temperature

Battery Type		-20°C	-10°C	0°C	5°C	10°C	20°C	25°C	30°C	40°C	45°C
GEL Battery	6V&12V	50%	70%	83%	85%	90%	98%	100%	102%	104%	105%

Discharge Current VS. Discharge Voltage

Final Discharge Voltage V/cell	1.80V	1.75V	1.60V
Discharge Current (A)	(A) ≤ 0.2C	0.2C < (A) < 1.0C	(A) ≥ 1.0C

Charge the batteries at least once every six months, if they are stored at 25°C.

Charging Method:

Constant Voltage	-0.2Cx2h+2.4~2.45V/Cellx24h, Max. Current 0.3CA
Constant Current	-0.2Cx2h+0.1CAx 12h
Fast	-0.2Cx2h+0.3CAx4.0h

Maintenance & Cautions

Float Service:
◆very month, recommend inspection every battery voltage.
◆Every three months, recommend equalization charge for one time.
Equalization charge method:
Discharge: 100% rate capacity discharge.
Charge: Max. current 0.3CA, constant voltage 2.35V/Cell charge 24h.
◆Effect of temperature on float charge voltage: -3mV/°C/Cell.
◆Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.

