

General Series Battery

Ultracelda (UC) Series VRLA batteries are designed with AGM (Absorbent Glass Mat) technology, High performance plates and electrolyte to give extra power output for common power backup system. GP Series Batteries are the general purpose batteries with 5 years floating design life at 25°C, Meet with IEC,BS,JIS and Eurobat standard,UL(MH62092),CE approved.



Aplicacion

- * Emergency Power System
- * Telecommunication systems
- * Electric toy car and wheelchairs, etc.
- * Alarm system
- * Medical equipment
- * Communication equipment
- * Uninterruptible power supplies
- * Power tools
- * Marine equipment
- * Fire and Security System

General Features

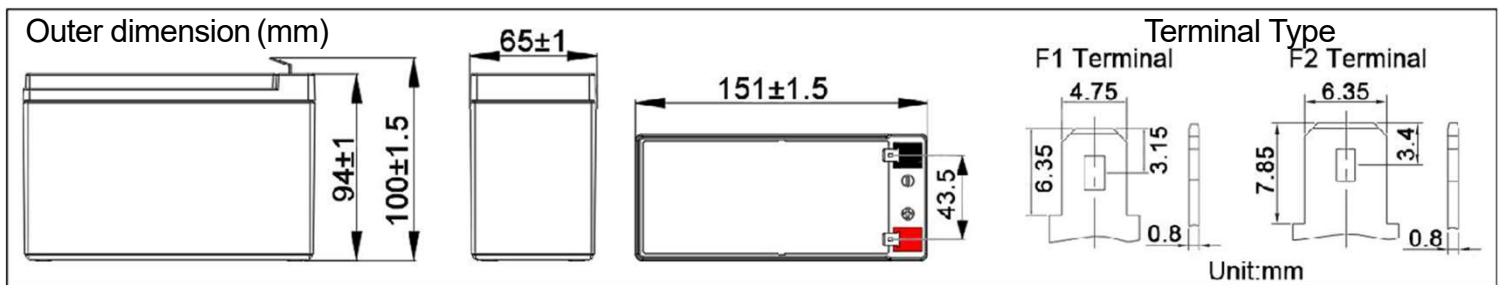
- * Heavy Duty Grid
- * Mechanized assembly
- * Non-spillable construction
- * High Reliability and Stability
- * Sealed and Maintenance-free
- * Long Life and low self-discharge design

Construction

- * Positive ····· Lead dioxide
- * Separator ··· Fiber glass
- * Safety Valve ··· EPDM
- * Container ··· ABS(UL94-HB)/Flame Retardant ABS (UL94-V0)
- * Electrolyte ··· Sulfuric acid
- * Negative ····· Lead
- * Terminal ····· Copper

Specification

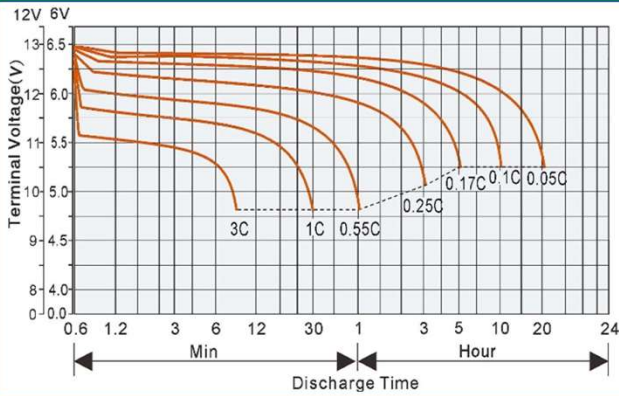
Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (20 Hour rate)		7Ah	
Dimension	Length	Width	Height	Total Height
	151mm (5.94 inches)	65mm (2.56 inches)	94mm (3.70 inches)	100mm (3.94 inches)
Approx Weight	1.99kg(4.38 lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 25.1mΩ			
Maximum Charge Current	2.10A			
Max.discharge current	105A (5Sec.)			
Short-circuit current	255A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C (77°F)	-15°C ~ 50°C (5°F ~122°F)	-15°C~ 40°C(5°F ~104°F)	-15°C~
Capacity @ 25°C (77°F)	20 hour rate(0.36A,10.5V)	10 hour	3 hour rate(1.893A,10.2V)	1 hour rate(4.46A,9.6V)
	7.20Ah	6.63Ah	5.679Ah	4.46Ah
Capacity affected by Temp.(20HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C (77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)



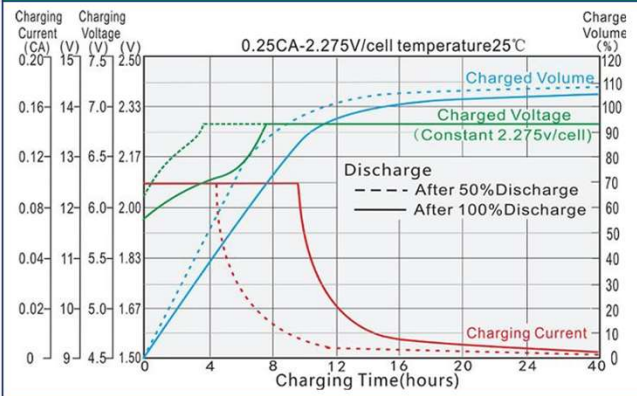
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	20.1	14.10	10.55	8.55	6.60	3.98	2.40	1.790	1.150	0.770	0.640	0.345
	W	38.4	27.29	20.60	16.79	13.04	7.93	4.80	3.589	2.311	1.551	1.291	0.699
1.80V/cell	A	21.7	15.00	11.12	8.93	6.85	4.10	2.46	1.829	1.172	0.788	0.652	0.353
	W	41.2	28.84	21.59	17.45	13.49	8.15	4.91	3.660	2.351	1.585	1.313	0.714
1.75V/cell	A	23.2	15.85	11.66	9.29	7.08	4.22	2.51	1.863	1.192	0.804	0.663	0.360
	W	43.7	30.28	22.52	18.07	13.89	8.36	5.00	3.721	2.387	1.615	1.334	0.727
1.70V/cell	A	24.6	16.65	12.18	9.63	7.30	4.33	2.55	1.893	1.210	0.817	0.672	0.363
	W	46.1	31.62	23.40	18.66	14.28	8.56	5.07	3.775	2.420	1.639	1.350	0.732
1.67V/cell	A	25.3	17.05	12.44	9.80	7.41	4.38	2.57	1.908	1.218	0.822	0.675	0.365
	W	47.2	32.28	23.84	18.95	14.47	8.64	5.11	3.801	2.435	1.649	1.356	0.735
1.60V/cell	A	26.4	17.70	12.90	10.10	7.60	4.46	2.60	1.930	1.230	0.830	0.680	0.368
	W	49.0	33.35	24.62	19.46	14.80	8.79	5.16	3.840	2.457	1.664	1.365	0.741

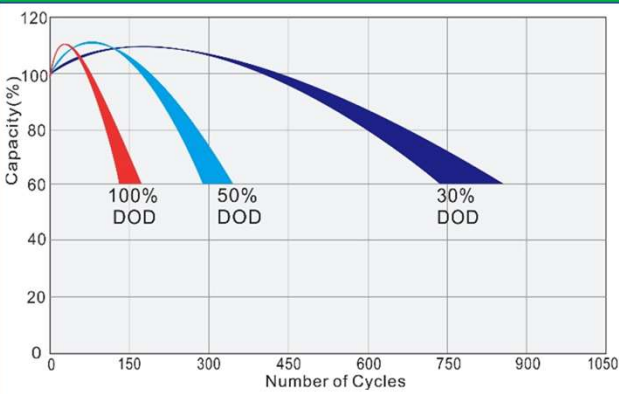
Discharge characteristic curve (25°C/77°F)



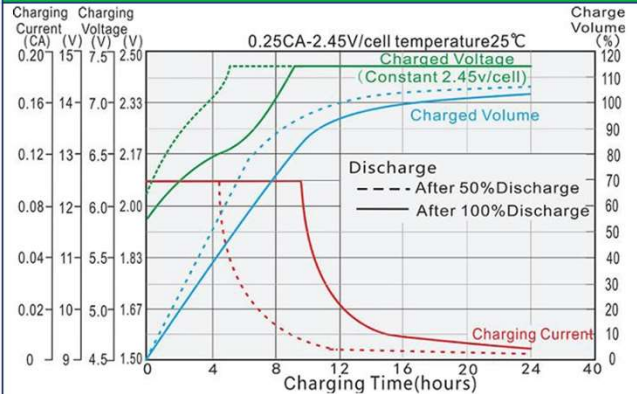
Charging characteristic curve of floating charge (25°C/77°F)



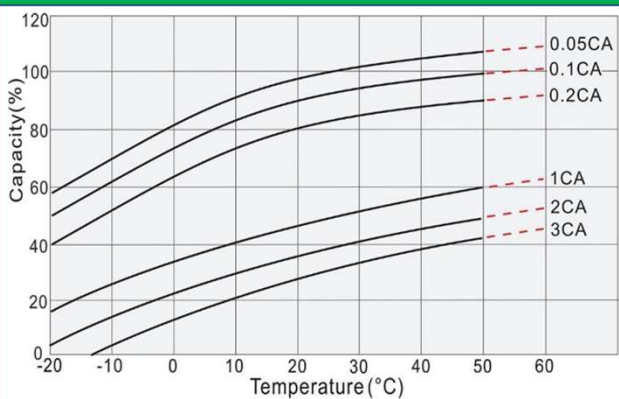
Cycle service life in relation to depth of discharge



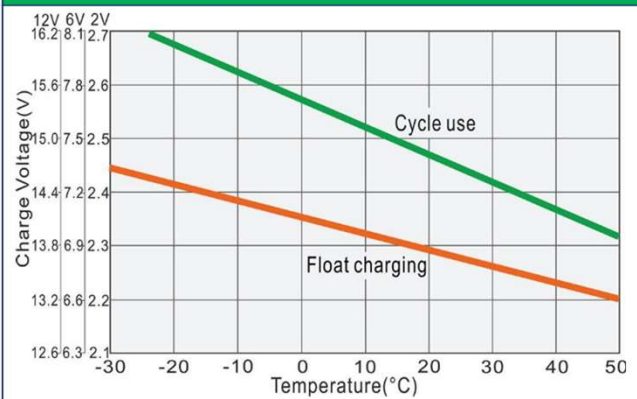
Cyclic charging characteristic curve (25°C/77°F)



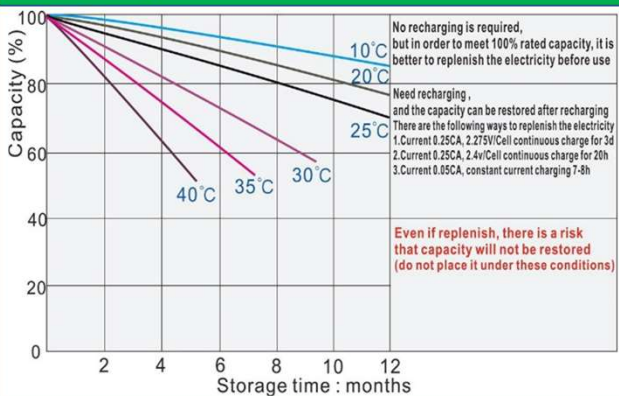
Relationship between temperature and capacity



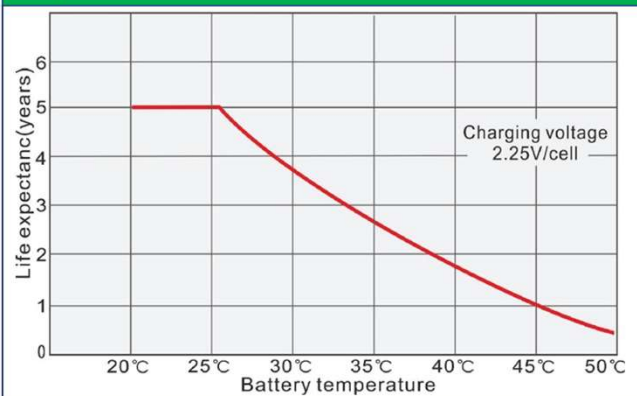
Relationship between charging voltage and temperature



Self discharge characteristics



Temperature vs Float Life



General Series Battery

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- * Marine equipment
- * Fire and Security System



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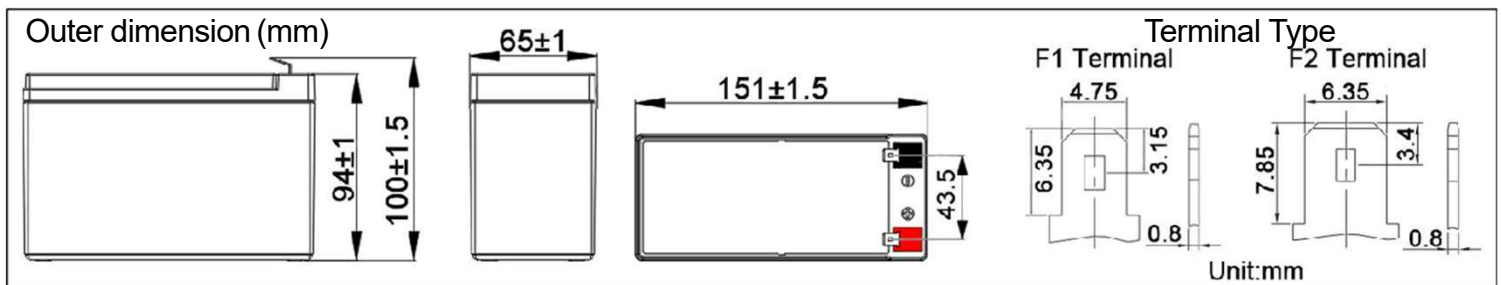
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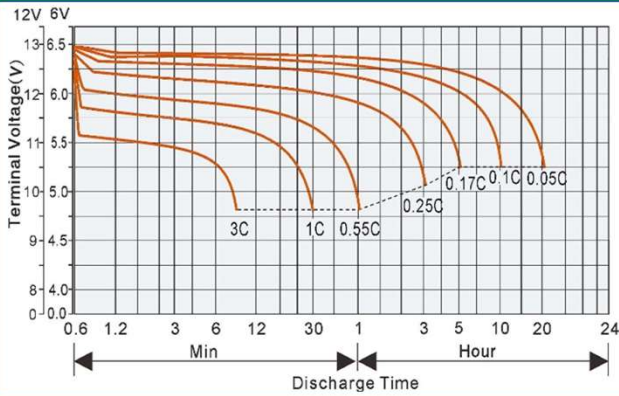
Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (20 Hour rate)		9.0Ah	
Dimension	Length	Width	Height	Total Height
	151mm (5.94 inches)	65mm (2.56 inches)	94mm (3.70 inches)	100mm (3.94 inches)
Approx Weight	2.45kg(5.40 lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 17.1mΩ			
Maximum Charge Current	2.70A			
Max.discharge current	135A (5Sec.)			
Short-circuit current	430A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C (77°F)	-15°C ~ 50°C(5°F ~122°F)	-15°C ~ 40°C (5°F~104°F)	-15°C ~
Capacity @ 25°C (77°F)	20 hour rate(0.458A,10.5V)	10 hour	3 hour rate(2.41A,10.2V)	1 hour rate(6.00A,9.6V)
	9.16Ah	8.52Ah	7.23Ah	6.00Ah
Capacity affected by Temp.(20HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C (77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)



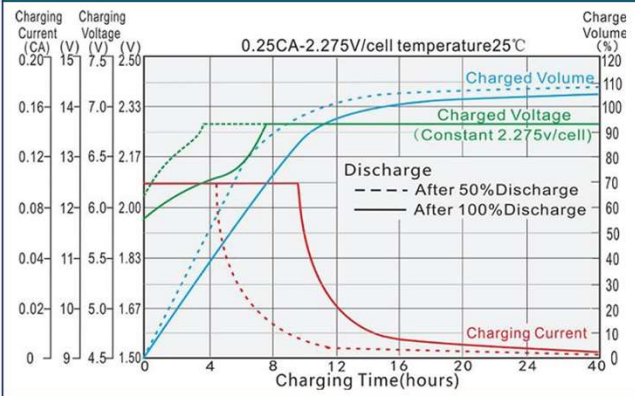
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C (77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	29.8	19.3	15.1	12.60	9.40	5.40	3.12	2.25	1.485	1.000	0.819	0.440
	W	57.1	37.5	29.7	24.95	18.70	10.80	6.27	4.53	3.001	2.026	1.660	0.892
1.80V/cell	A	32.3	20.5	16.0	13.05	9.65	5.55	3.20	2.31	1.519	1.019	0.837	0.450
	W	61.3	39.6	31.4	25.76	19.14	11.07	6.41	4.64	3.061	2.058	1.692	0.910
1.75V/cell	A	34.5	21.9	16.8	13.47	9.89	5.69	3.27	2.36	1.545	1.035	0.852	0.458
	W	64.9	42.1	32.8	26.51	19.56	11.32	6.54	4.73	3.106	2.086	1.718	0.925
1.70V/cell	A	36.5	23.2	17.6	13.87	10.12	5.82	3.33	2.41	1.568	1.049	0.862	0.463
	W	68.1	44.3	34.2	27.22	19.97	11.55	6.64	4.82	3.145	2.109	1.735	0.933
1.67V/cell	A	37.5	23.8	18.0	14.07	10.23	5.89	3.36	2.43	1.579	1.055	0.866	0.465
	W	69.7	45.3	35.0	27.57	20.16	11.68	6.70	4.85	3.164	2.119	1.741	0.936
1.60V/cell	A	40.0	25.0	18.6	14.40	10.43	6.00	3.42	2.47	1.595	1.065	0.872	0.468
	W	73.8	47.4	36.0	28.16	20.52	11.88	6.80	4.93	3.191	2.136	1.751	0.941

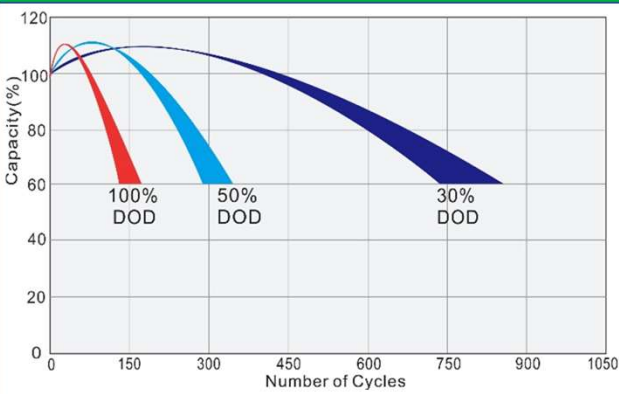
Discharge characteristic curve (25°C/77°F)



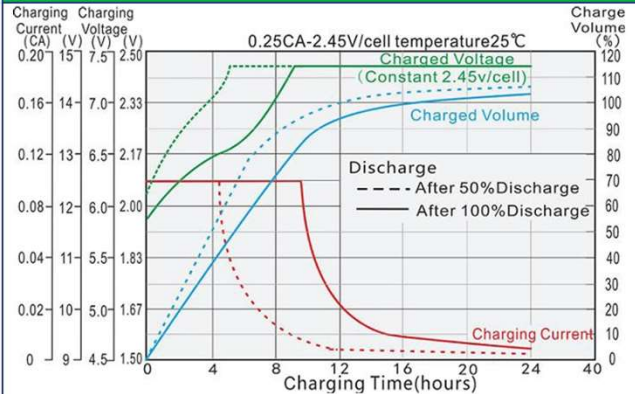
Charging characteristic curve of floating charge (25°C/77°F)



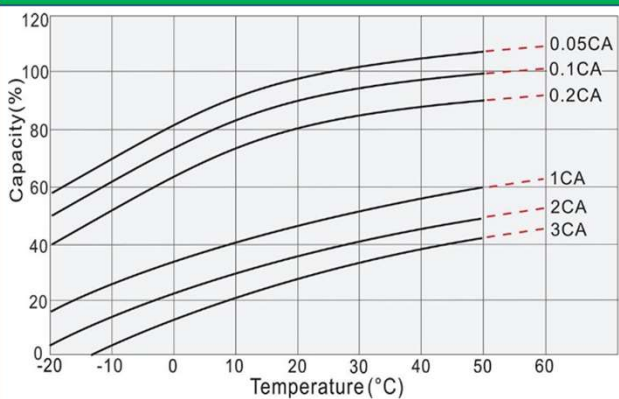
Cycle service life in relation to depth of discharge



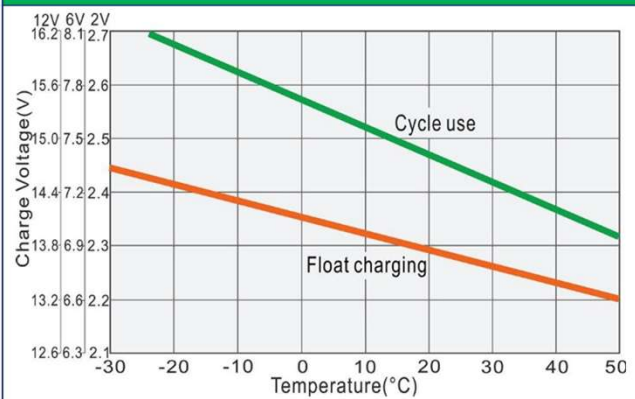
Cyclic charging characteristic curve (25°C/77°F)



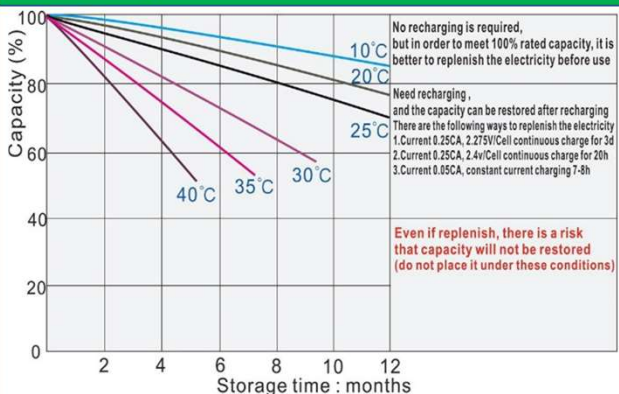
Relationship between temperature and capacity



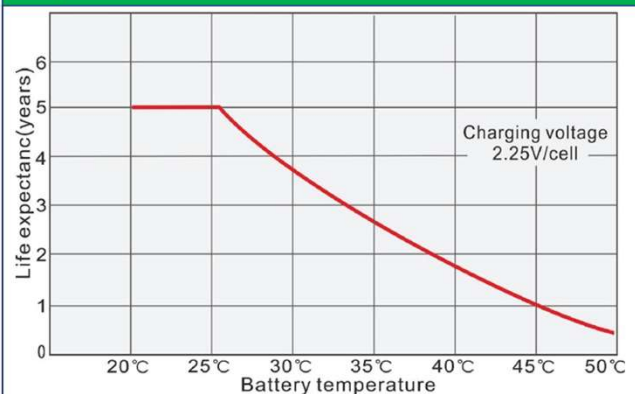
Relationship between charging voltage and temperature



Self discharge characteristics

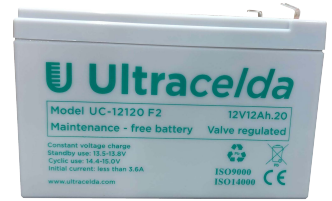


Temperature vs Float Life



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General Features

- * Heavy Duty Grid
- * Mechanized assembly
- * Non-spillable construction
- * High Reliability and Stability
- * Sealed and Maintenance-free
- * Long Life and low self-discharge design

Construction

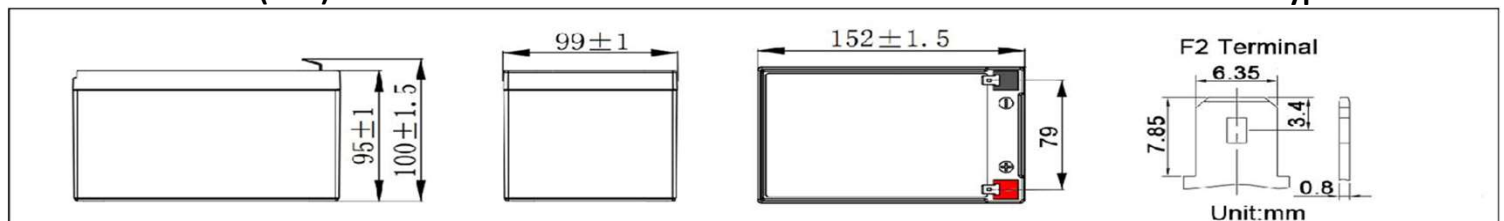
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- * Negative ······· Lead
- * Terminal ······· Copper

Specification

Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (20 Hour rate)		12Ah	
Dimension	Length	Width	Height	Total Height
	152mm (5.98 inches)	99mm (3.90 inches)	95mm (3.74 inches)	100mm (3.94 inches)
Approx Weight	3.30kg(7.27 lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 16.7mΩ			
Maximum Charge Current	3.6A			
Max.discharge current	180A (5Sec.)			
Short-circuit current	430A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C(77°F)	-15°C~ 50°C(5°F~122°F)	-15°C~ 40°C(5°F~104°F)	-15°C~
Capacity @ 25°C (77°F)	20 hour rate(0.636A,10.5V)	10 hour	3 hour rate(3.29A,10.2V)	1 hour rate(7.63A,9.6V)
	12.72Ah	11.72Ah	9.87Ah	7.63Ah
Capacity affected by Temp.(20HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C(77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)

Outer dimension (mm)

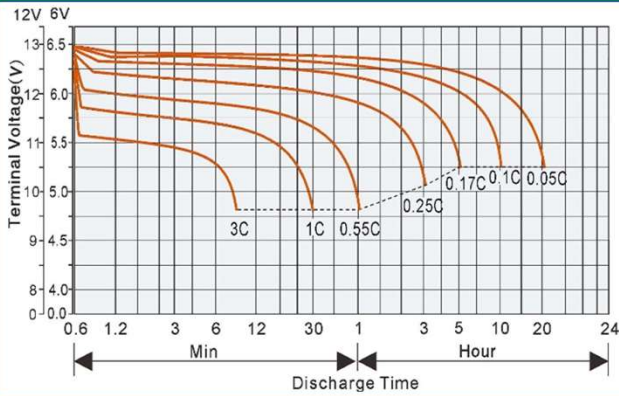
Terminal Type



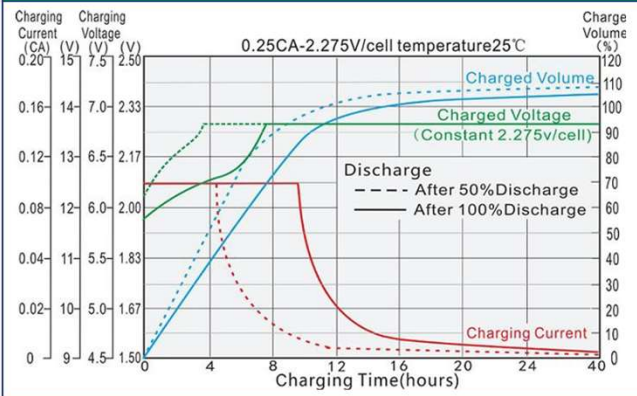
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	33.5	23.5	19.0	16.10	12.30	6.98	4.30	3.10	2.060	1.378	1.138	0.620
	W	64.1	45.4	37.0	31.60	24.30	13.93	8.63	6.24	4.170	2.795	2.314	1.266
1.80V/cell	A	36.6	25.2	19.8	16.64	12.62	7.15	4.40	3.17	2.100	1.402	1.157	0.628
	W	69.1	48.2	38.4	32.50	24.87	14.24	8.81	6.38	4.240	2.840	2.351	1.281
1.75V/cell	A	39.5	26.8	20.6	17.17	12.93	7.31	4.49	3.24	2.136	1.424	1.172	0.636
	W	73.7	50.9	39.7	33.40	25.42	14.53	8.98	6.49	4.310	2.882	2.380	1.297
1.70V/cell	A	42.3	28.3	21.3	17.68	13.33	7.45	4.57	3.29	2.169	1.444	1.187	0.643
	W	78.0	53.3	40.8	34.30	26.15	14.78	9.13	6.60	4.370	2.920	2.408	1.311
1.67V/cell	A	43.7	29.0	21.6	17.93	13.48	7.52	4.62	3.32	2.185	1.452	1.193	0.646
	W	80.1	54.4	41.3	34.80	26.41	14.91	9.22	6.65	4.400	2.935	2.420	1.316
1.60V/cell	A	46.5	30.2	22.2	18.40	13.68	7.63	4.70	3.36	2.210	1.467	1.203	0.651
	W	84.3	56.2	42.3	35.60	26.75	15.11	9.37	6.72	4.450	2.964	2.439	1.326

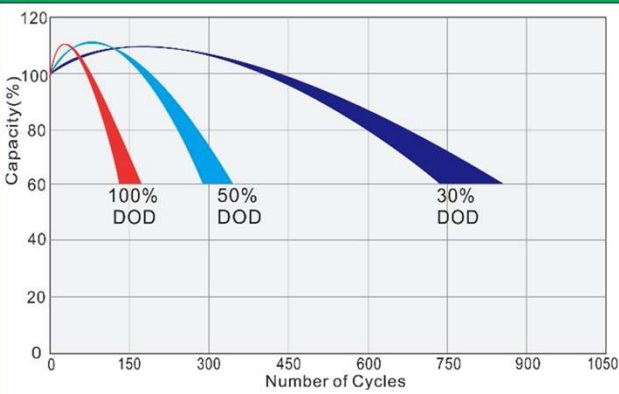
Discharge characteristic curve (25°C/77°F)



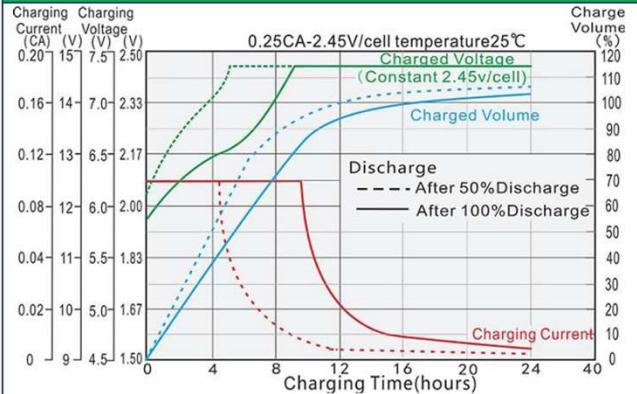
Charging characteristic curve of floating charge (25°C/77°F)



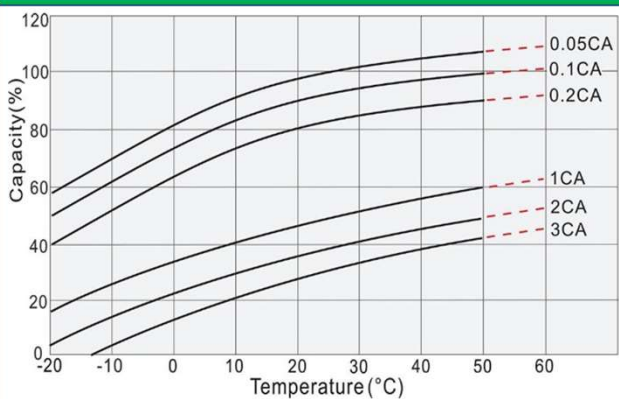
Cycle service life in relation to depth of discharge



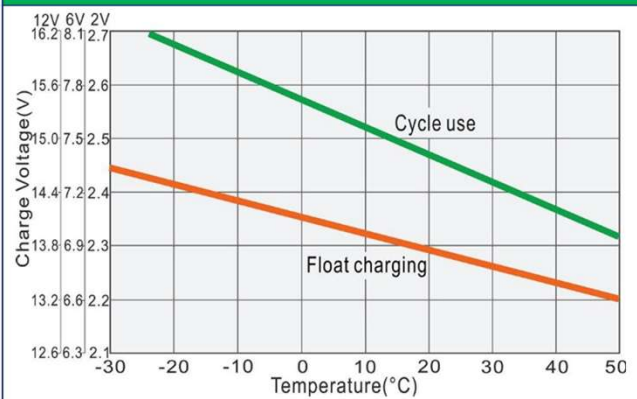
Cyclic charging characteristic curve (25°C/77°F)



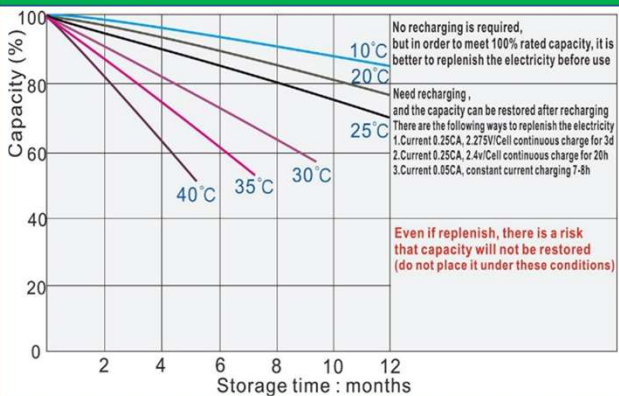
Relationship between temperature and capacity



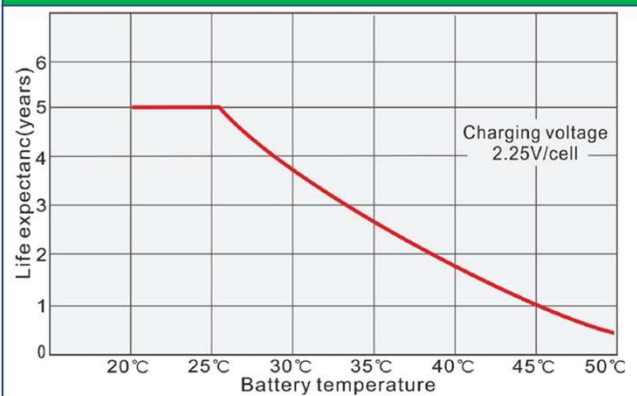
Relationship between charging voltage and temperature



Self discharge characteristics

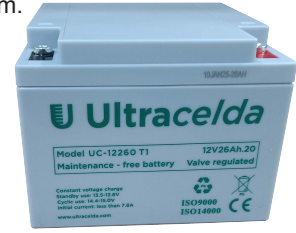


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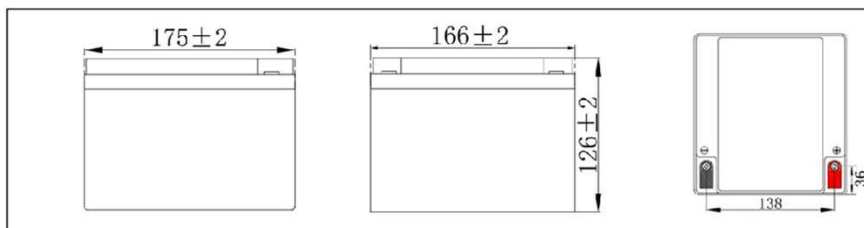
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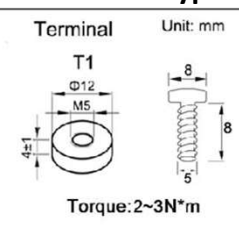
Specification

Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (20 Hour rate)		26Ah	
Dimension	Length	Width	Height	Total Height
	175mm (6.89 inches)	166mm (6.53 inches)	126mm (4.96 inches)	126mm (4.96 inches)
Approx Weight	7.40kg(16.31lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 9.25mΩ			
Maximum Charge Current	7.8A			
Max.discharge current	390A (5Sec.)			
Short-circuit current	750A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C(77°F)	-15°C~ 50°C (5°F~122°F)	-15°C~ 40°C (5°F~104°F)	-15°C~ 40°C (5°F~104°F)
Capacity @ 25°C (77°F)	20 hour rate(1.415A,10.5V)	10 hour	3 hour rate(7.14A,10.2V)	1 hour rate(17.30A,9.6V)
	28.30Ah	26.32Ah	21.42Ah	17.30Ah
Capacity affected by Temp.(10HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C(77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)

Outer dimension (mm)



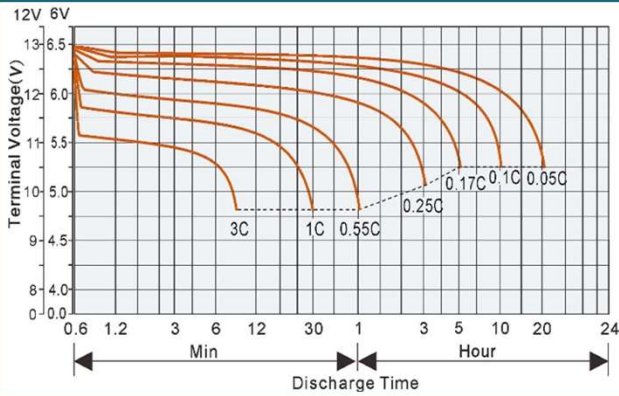
Terminal Type



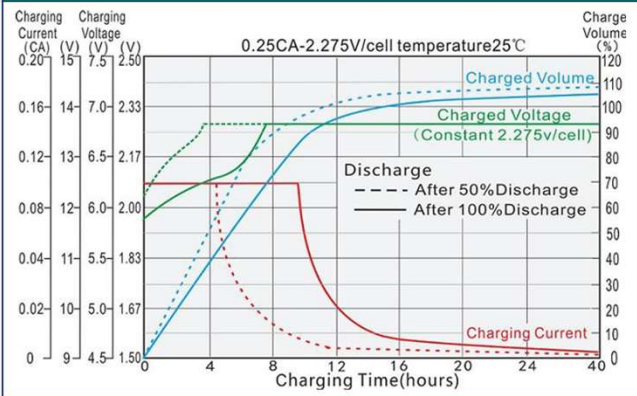
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	68.0	52.7	41.6	35.45	27.70	15.80	9.65	6.69	4.57	3.085	2.565	1.378
	W	129.2	101.6	80.8	69.20	54.40	31.32	19.26	13.39	9.18	6.210	5.168	2.784
1.80V/cell	A	75.8	56.1	43.9	37.02	28.47	16.20	9.86	6.85	4.67	3.129	2.600	1.397
	W	141.9	107.1	84.8	71.90	55.70	32.03	19.64	13.68	9.36	6.286	5.229	2.816
1.75V/cell	A	83.5	59.3	46.1	38.45	29.20	16.56	10.06	7.00	4.76	3.167	2.632	1.415
	W	154.0	112.1	88.5	74.40	56.90	32.66	20.00	13.96	9.52	6.352	5.284	2.847
1.70V/cell	A	91.0	62.4	48.2	39.75	29.89	16.89	10.24	7.14	4.84	3.200	2.660	1.432
	W	165.5	116.9	92.0	76.60	58.10	33.25	20.33	14.22	9.67	6.409	5.332	2.877
1.67V/cell	A	94.7	63.9	49.2	40.40	30.27	17.06	10.32	7.21	4.88	3.216	2.672	1.440
	W	171.0	119.1	93.6	77.70	58.70	33.55	20.47	14.35	9.74	6.438	5.353	2.892
1.60V/cell	A	101.5	66.5	51.0	41.30	30.80	17.30	10.45	7.32	4.93	3.240	2.690	1.450
	W	181.0	123.0	96.6	79.20	59.60	33.98	20.71	14.55	9.83	6.479	5.384	2.909

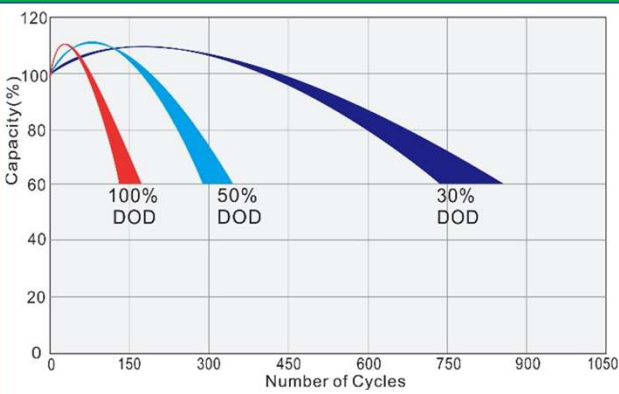
Discharge characteristic curve (25°C/77°F)



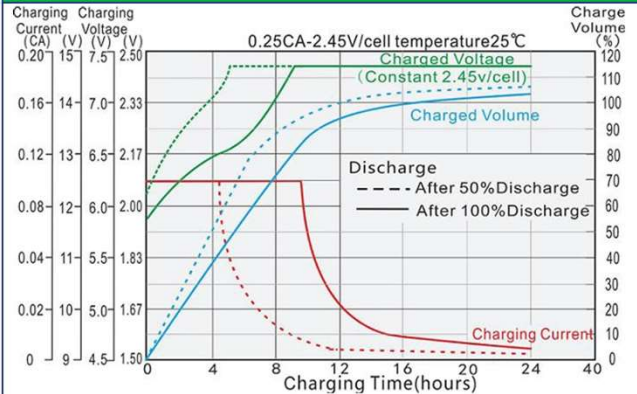
Charging characteristic curve of floating charge (25°C/77°F)



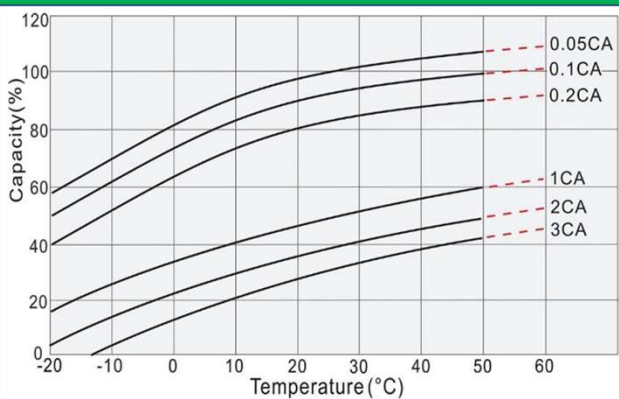
Cycle service life in relation to depth of discharge



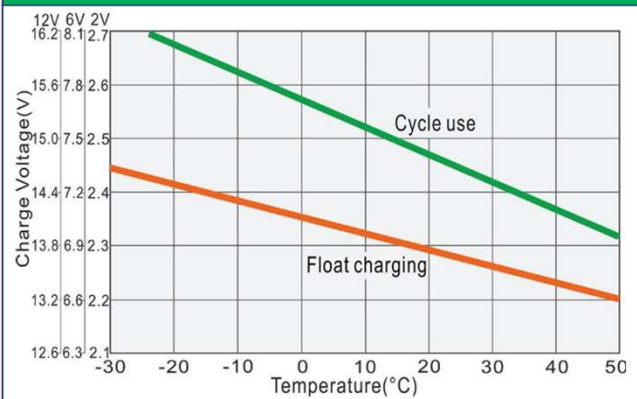
Cyclic charging characteristic curve (25°C/77°F)



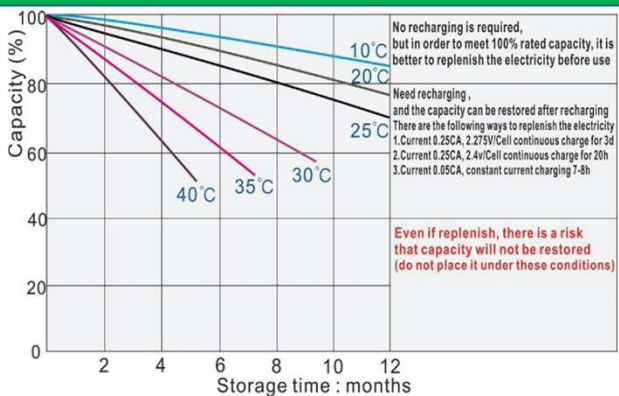
Relationship between temperature and capacity



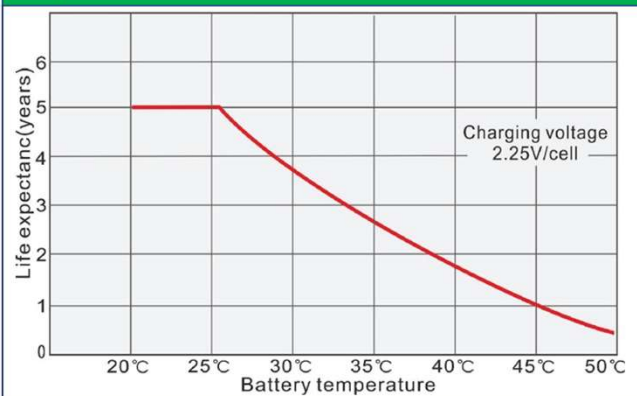
Relationship between charging voltage and temperature



Self discharge characteristics



Temperature vs Float Life



General Series Battery

Ultracelda (UC) Series VRLA batteries are designed with AGM (Absorbent Glass Mat) technology, High performance plates and electrolyte to give extra power output for common power backup system. GP Series Batteries are the general purpose batteries with 5 years floating design life at 25°C, Meet with IEC,BS,JIS and Eurobat standard,UL(MH62092),CE approved.

Aplicacion

- * Emergency Power System
- * Telecommunication systems
- * Electric toy car and wheelchairs, etc.
- * Alarm system
- * Medical equipment
- * Communication equipment
- * Uninterruptible power supplies
- * Power tools
- * Marine equipment
- * Fire and Security System



General Features

- * Heavy Duty Grid
- * Mechanized assembly
- * Non-spillable construction
- * High Reliability and Stability
- * Sealed and Maintenance-free
- * Long Life and low self-discharge design

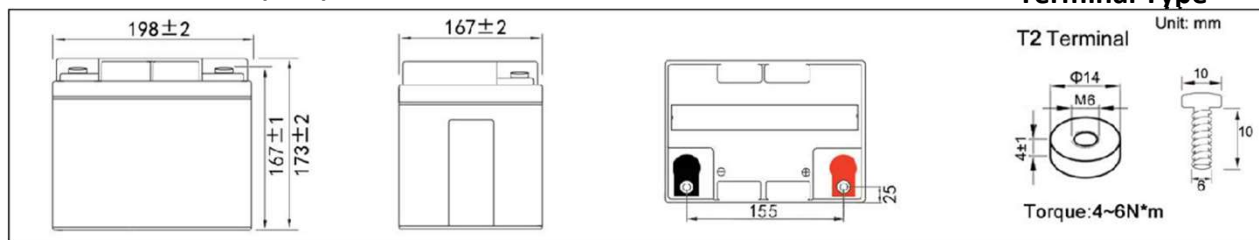
Construction

- * Positive ····· Lead dioxide
- * Separator ····· Fiber glass
- * Safety Valve ····· EPDM
- * Container ····· ABS(UL94-HB)/Flame Retardant ABS (UL94-V0)
- * Electrolyte ····· Sulfuric acid
- * Negative ······· Lead
- * Terminal ······· Copper

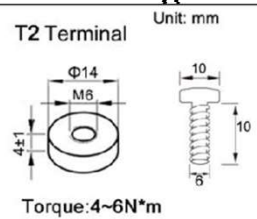
Specification

Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (10 Hour rate)		40Ah	
Dimension	Length	Width	Height	Total Height
	198mm (7.79 inches)	167mm (6.57 inches)	173mm (6.81 inches)	173mm (6.81 inches)
Approx Weight	12.0kg(26.45 lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 8.58mΩ			
Maximum Charge Current	12A			
Max.discharge current	480A (5Sec.)			
Short-circuit current	840A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C(77°F)	-15°C~ 50°C (5°F~122°F)	-15°C~ 40°C (5°F~104°F)	-15°C~ 40°C (5°F~104°F)
Capacity @ 25°C (77°F)	10 hour rate(4.0A,10.8V)	5 hour rate(7.17A,10.5V)	3 hour rate(10.81A,10.2V)	1 hour rate(27.5A,9.6V)
	40.00Ah	35.85Ah	32.43Ah	27.5Ah
Capacity affected by Temp.(10HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C(77°F)	Float Charging Voltage		Cycle Use Voltage	
	13.5~13.8 VDC (-3mV/cell/°C)		14.4~15.0 VDC (-5mV/cell/°C)	
	Equalization Charging Voltage			
	14.1~14.4 VDC (-4mV/cell/°C)			

Outer dimension (mm)



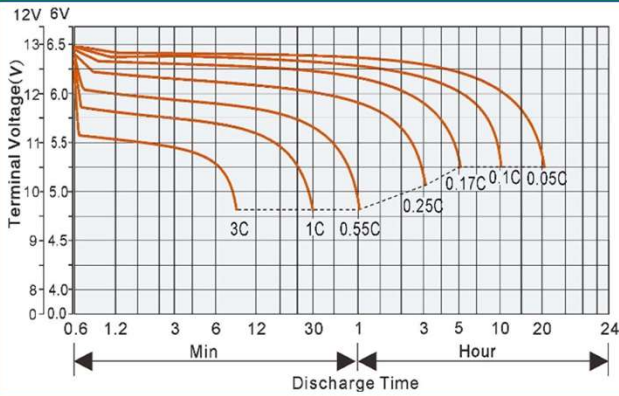
Terminal Type



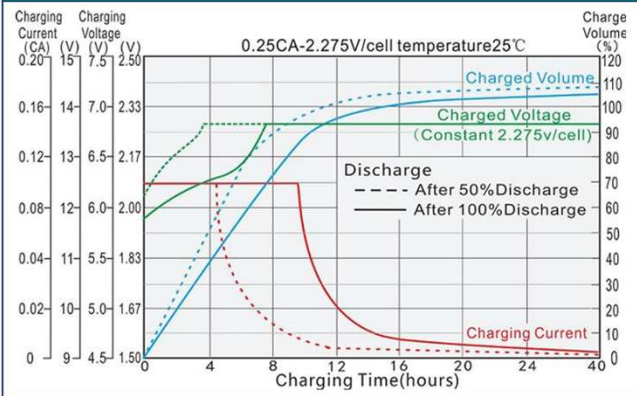
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	114	82.9	65.0	54.7	41.5	24.00	14.50	10.30	6.95	4.77	3.92	2.10
	W	213	155.8	122.8	104.0	80.0	46.50	28.26	20.21	13.70	9.46	7.76	4.25
1.80V/cell	A	124	88.3	68.6	57.5	43.1	24.85	14.88	10.49	7.07	4.83	4.00	2.14
	W	229	165.1	128.2	108.6	82.4	47.88	28.95	20.58	13.93	9.57	7.85	4.29
1.75V/cell	A	132	92.9	71.7	59.9	44.5	25.63	15.21	10.66	7.17	4.89	4.04	2.16
	W	244	173.3	132.7	112.1	84.6	49.09	29.55	20.89	14.12	9.66	7.93	4.32
1.70V/cell	A	140	97.3	74.8	61.8	45.9	26.31	15.55	10.81	7.27	4.94	4.06	2.17
	W	257	180.6	137.0	115.1	86.8	50.19	30.11	21.16	14.31	9.75	8.01	4.34
1.67V/cell	A	146	100.9	76.8	63.1	46.8	26.75	15.78	10.94	7.35	4.98	4.08	2.18
	W	264	185.3	140.0	116.9	88.1	50.88	30.45	21.35	14.44	9.82	8.05	4.35
1.60V/cell	A	156	107.3	80.5	65.8	48.3	27.50	16.15	11.15	7.48	5.05	4.10	2.20
	W	279	193.1	146.3	121.1	90.4	52.20	31.06	21.61	14.60	9.92	8.12	4.38

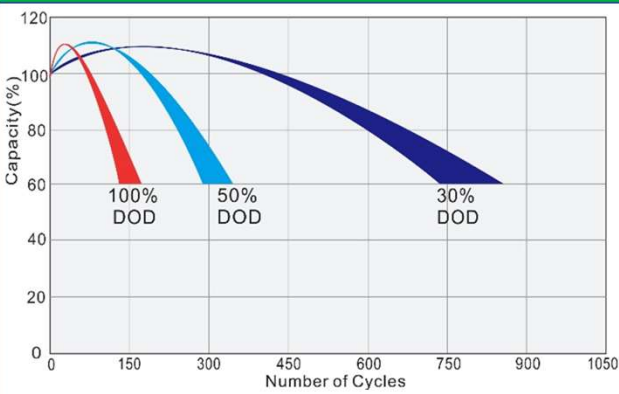
Discharge characteristic curve (25°C/77°F)



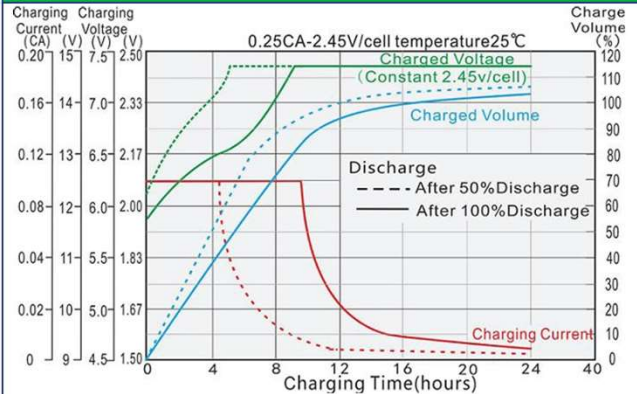
Charging characteristic curve of floating charge (25°C/77°F)



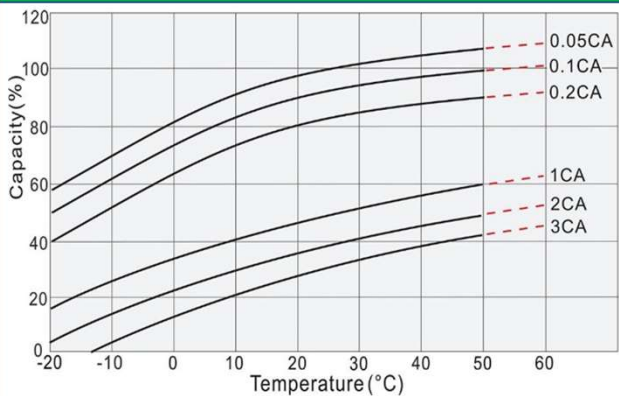
Cycle service life in relation to depth of discharge



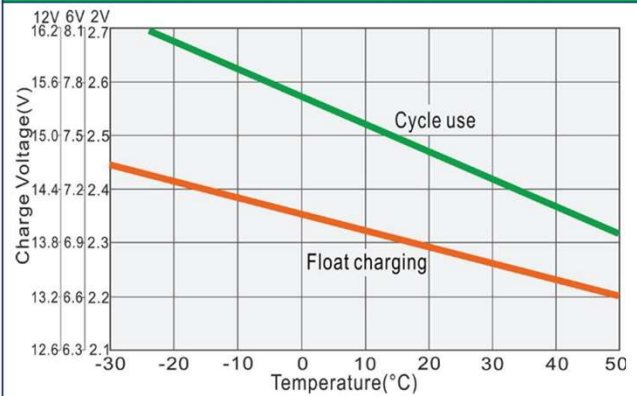
Cyclic charging characteristic curve (25°C/77°F)



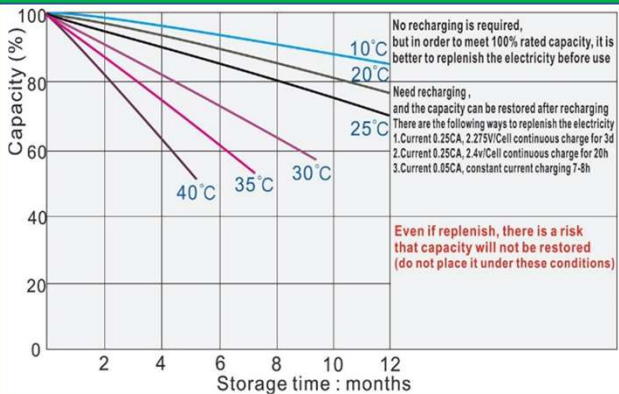
Relationship between temperature and capacity



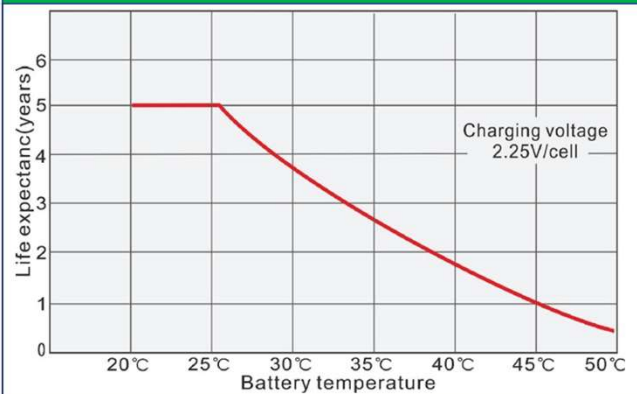
Relationship between charging voltage and temperature



Self discharge characteristics



Temperature vs Float Life



General Series Battery

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Aplicacion

- * Emergency Power System
- * Telecommunication systems
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- * Alarm system
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General Features

- * Heavy Duty Grid
- * Mechanized assembly
- * Non-spillable construction
- * High Reliability and Stability
- * Sealed and Maintenance-free
- * Long Life and low self-discharge design

Construction

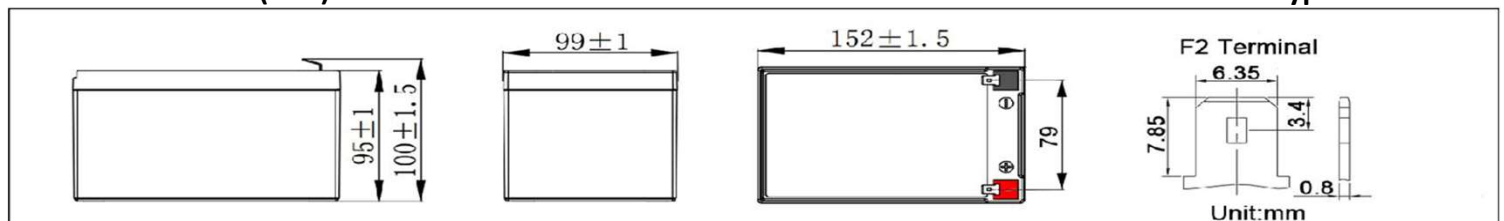
- * Positive ····· Lead dioxide
- * Separator ····· Fiber glass
- * Safety Valve ····· EPDM
- * Container ····· ABS(UL94-HB)/Flame Retardant ABS (UL94-V0)
- * Electrolyte ····· Sulfuric acid
- * Negative ······· Lead
- * Terminal ······· Copper

Specification

Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (20 Hour rate)		12Ah	
Dimension	Length	Width	Height	Total Height
	152mm (5.98 inches)	99mm (3.90 inches)	95mm (3.74 inches)	100mm (3.94 inches)
Approx Weight	3.30kg(7.27 lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 16.7mΩ			
Maximum Charge Current	3.6A			
Max.discharge current	180A (5Sec.)			
Short-circuit current	430A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C(77°F)	-15°C~ 50°C(5°F~122°F)	-15°C~ 40°C(5°F~104°F)	-15°C~
Capacity @ 25°C (77°F)	20 hour rate(0.636A,10.5V)	10 hour	3 hour rate(3.29A,10.2V)	1 hour rate(7.63A,9.6V)
	12.72Ah	11.72Ah	9.87Ah	7.63Ah
Capacity affected by Temp.(20HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C(77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)

Outer dimension (mm)

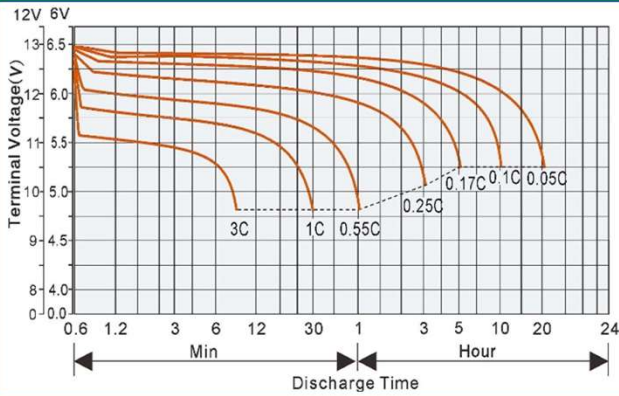
Terminal Type



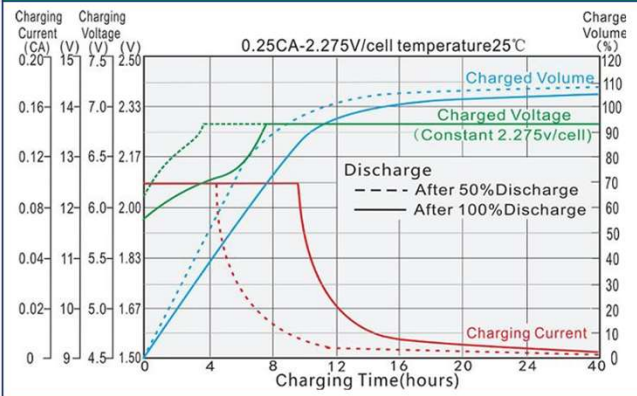
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	33.5	23.5	19.0	16.10	12.30	6.98	4.30	3.10	2.060	1.378	1.138	0.620
	W	64.1	45.4	37.0	31.60	24.30	13.93	8.63	6.24	4.170	2.795	2.314	1.266
1.80V/cell	A	36.6	25.2	19.8	16.64	12.62	7.15	4.40	3.17	2.100	1.402	1.157	0.628
	W	69.1	48.2	38.4	32.50	24.87	14.24	8.81	6.38	4.240	2.840	2.351	1.281
1.75V/cell	A	39.5	26.8	20.6	17.17	12.93	7.31	4.49	3.24	2.136	1.424	1.172	0.636
	W	73.7	50.9	39.7	33.40	25.42	14.53	8.98	6.49	4.310	2.882	2.380	1.297
1.70V/cell	A	42.3	28.3	21.3	17.68	13.33	7.45	4.57	3.29	2.169	1.444	1.187	0.643
	W	78.0	53.3	40.8	34.30	26.15	14.78	9.13	6.60	4.370	2.920	2.408	1.311
1.67V/cell	A	43.7	29.0	21.6	17.93	13.48	7.52	4.62	3.32	2.185	1.452	1.193	0.646
	W	80.1	54.4	41.3	34.80	26.41	14.91	9.22	6.65	4.400	2.935	2.420	1.316
1.60V/cell	A	46.5	30.2	22.2	18.40	13.68	7.63	4.70	3.36	2.210	1.467	1.203	0.651
	W	84.3	56.2	42.3	35.60	26.75	15.11	9.37	6.72	4.450	2.964	2.439	1.326

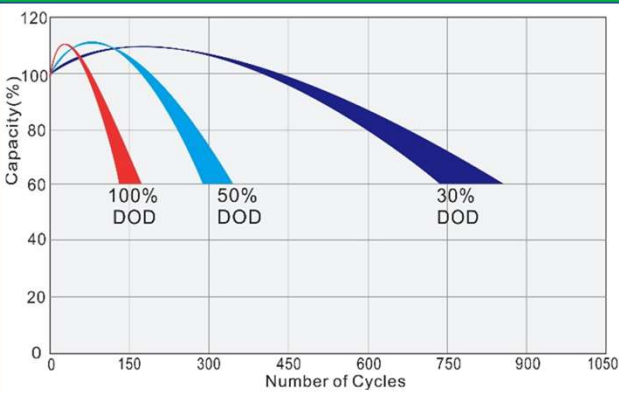
Discharge characteristic curve (25°C/77°F)



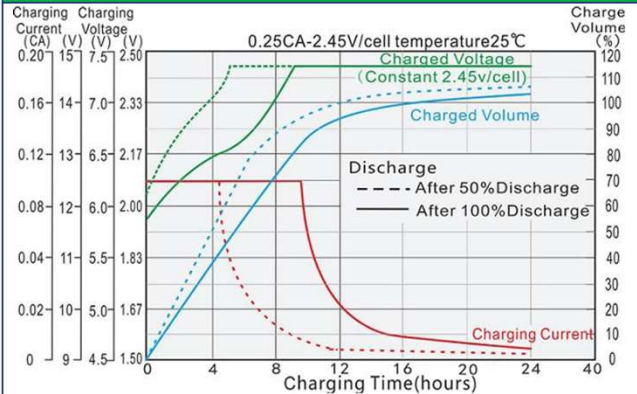
Charging characteristic curve of floating charge (25°C/77°F)



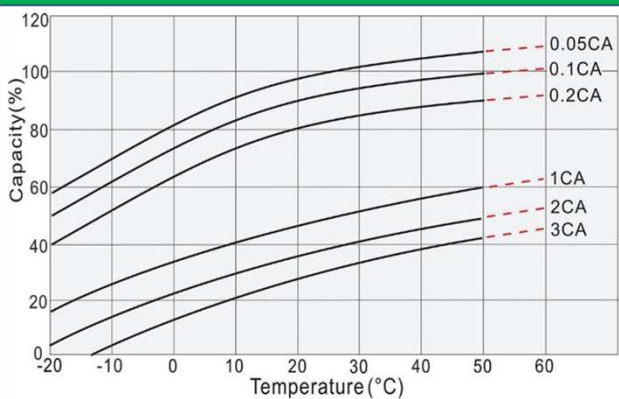
Cycle service life in relation to depth of discharge



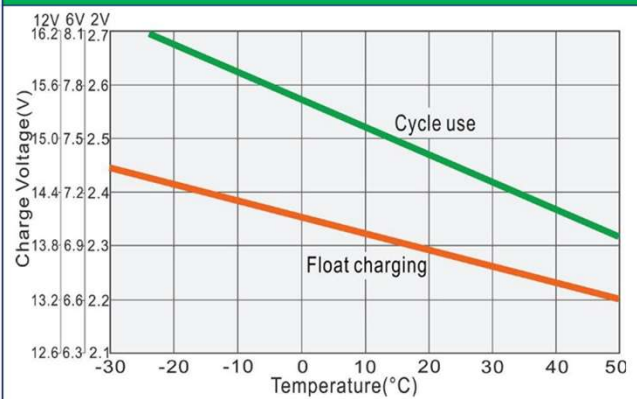
Cyclic charging characteristic curve (25°C/77°F)



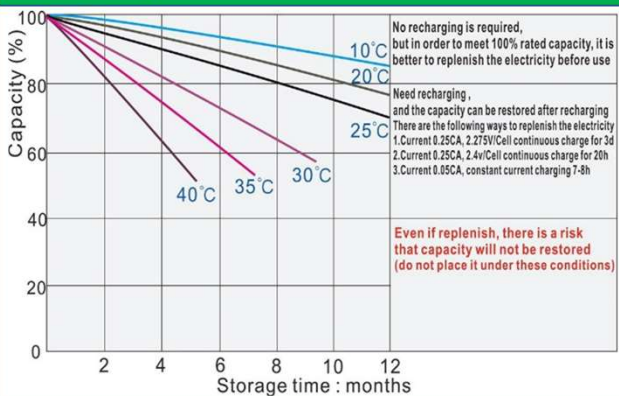
Relationship between temperature and capacity



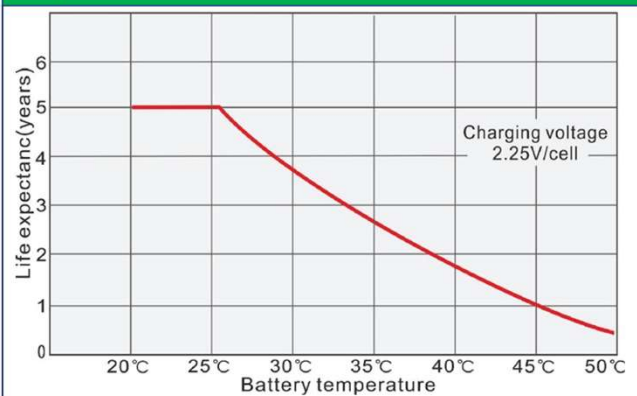
Relationship between charging voltage and temperature



Self discharge characteristics



Temperature vs Float Life



General Series Battery

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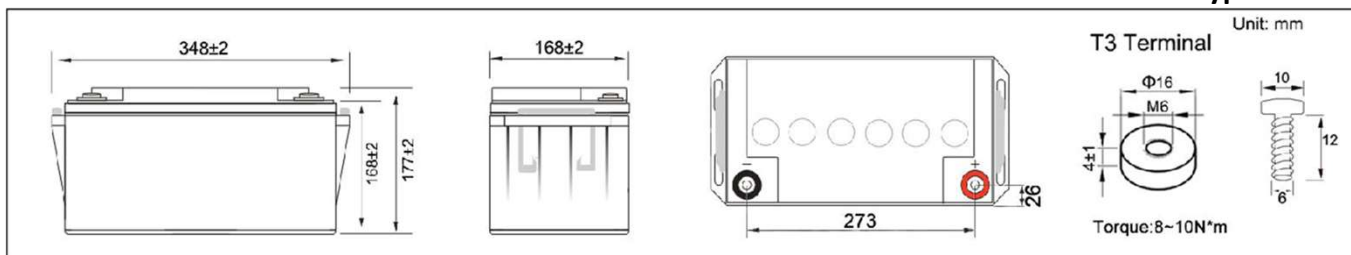
Construction

- * Positive ····· Lead dioxide
- * Separator ····· Fiber glass
- * Safety Valve ····· EPDM
- * Container ····· ABS(UL94-HB)/Flame Retardant ABS (UL94-V0)
- * Electrolyte ····· Sulfuric acid
- * Negative ······· Lead
- * Terminal ······· Copper

Specification

Battery Model	Nominal Voltage		12V (6 cells per unit)	
	Rated capacity (10 Hour rate)		65Ah	
Dimension	Length	Width	Height	Total Height
	348mm (13.70 inches)	168mm (6.61 inches)	177mm (6.97 inches)	177mm (6.97 inches)
Approx Weight	19.1kg(4210lbs) ± 3%			
Internal Resistance	Full charged at 25°C(77°F):Approx 5.78mΩ			
Maximum Charge Current	19.5A			
Max discharge current	650A (5Sec.)			
Short-circuit current	1140A			
Operating Temperature Range	Nominal Operating	Discharge	Charge	Storage
	25°C(77°F)	-15°C~ 50°C (5°F~122°F)	-15°C~ 40°C (5°F~104°F)	-15°C~ 40°C (5°F~104°F)
Capacity @ 25°C (77°F)	10 hour rate(6.50A,10.8V)	5 hour rate(11.73A,10.5V)	3 hour rate(17.70A,10.2V)	1 hour rate(41.1A,9.6V)
	65.00Ah	58.65Ah	53.10Ah	41.10Ah
Capacity affected by Temp.(10HR)	40°C (104°F)	25°C (77°F)	0°C (32°F)	-15°C (5°F)
	102%	100%	85%	65%
Charge method at 25°C(77°F)	Float Charging Voltage		Equalization Charging Voltage	Cycle Use Voltage
	13.5~13.8 VDC (-3mV/cell/°C)		14.1~14.4 VDC (-4mV/cell/°C)	14.4~15.0 VDC (-5mV/cell/°C)

Outer dimension (mm)

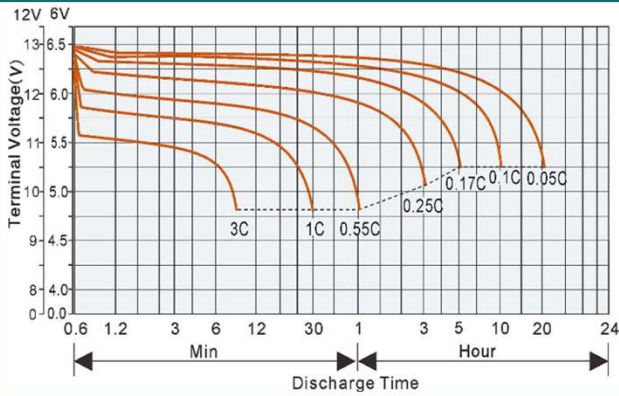


Terminal Type

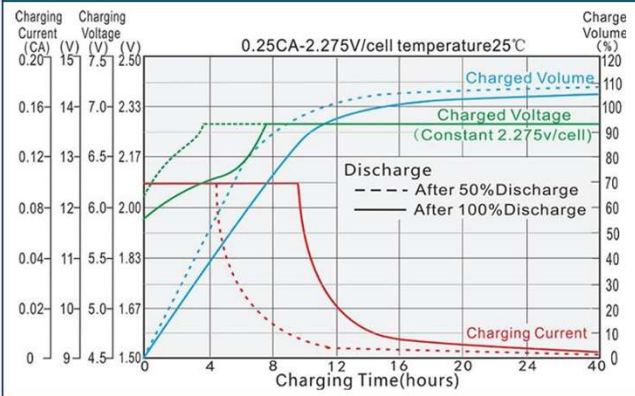
Constant Current(Amp) and Constant Power(Watt) Discharge Table at 25°C(77°F)

F.V/Time		5min	10min	15min	20min	30min	1h	2h	3h	5h	8h	10h	20h
1.85V/cell	A	195	138	94.0	76.1	60.6	35.9	22.4	16.71	11.32	7.80	6.41	3.42
	W	358	255	175	144.6	116.6	69.9	43.6	32.62	22.25	15.54	12.79	6.88
1.80V/cell	A	207	147	101	80.4	63.0	37.2	23.2	17.05	11.53	7.90	6.50	3.48
	W	375	268	186	151.3	120.0	71.5	44.5	33.00	22.52	15.70	12.92	6.95
1.75V/cell	A	218	155	107	84.6	65.3	38.4	23.9	17.38	11.73	8.00	6.59	3.53
	W	391	280	196	157.9	123.3	73.0	45.3	33.37	22.78	15.87	13.04	7.01
1.70V/cell	A	228	162	112	88.7	67.5	39.5	24.5	17.70	11.92	8.09	6.67	3.57
	W	406	291	205	164.4	126.4	74.4	46.1	33.73	23.03	16.02	13.15	7.06
1.67V/cell	A	234	166	114	90.6	68.5	40.1	24.7	17.83	12.00	8.13	6.70	3.59
	W	413	297	209	167.4	127.8	75.1	46.5	33.91	23.15	16.08	13.19	7.09
1.60V/cell	A	245	175	118	94.5	70.5	41.1	25.1	18.10	12.12	8.18	6.76	3.62
	W	430	310	220	173.9	130.9	76.5	47.1	34.20	23.34	16.16	13.29	7.13

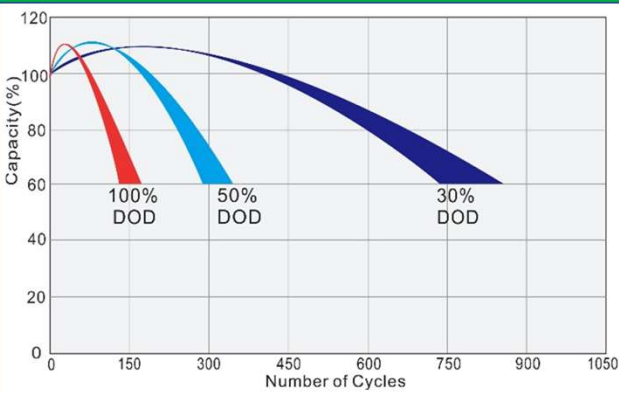
Discharge characteristic curve (25°C/77°F)



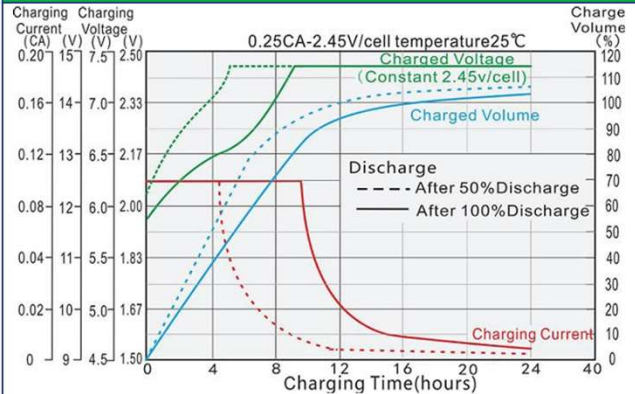
Charging characteristic curve of floating charge (25°C/77°F)



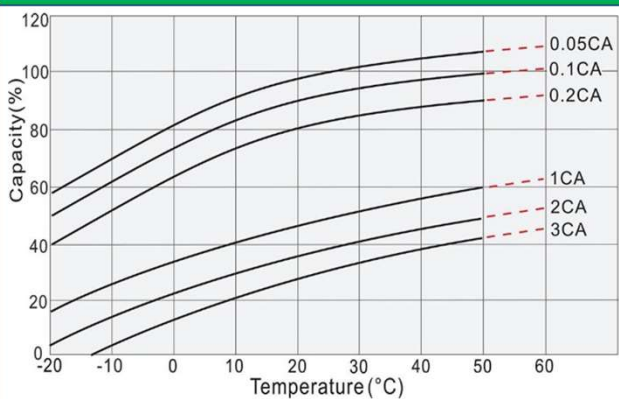
Cycle service life in relation to depth of discharge



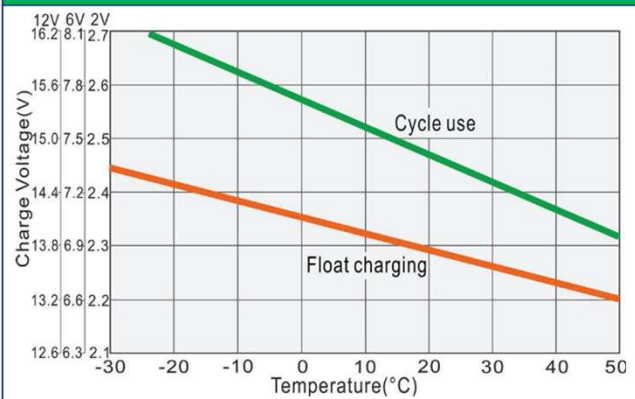
Cyclic charging characteristic curve (25°C/77°F)



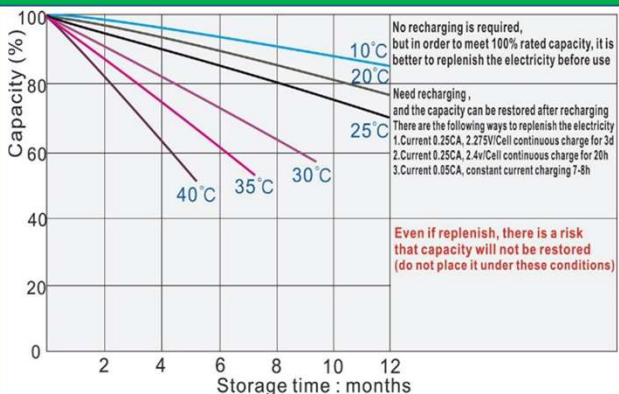
Relationship between temperature and capacity



Relationship between charging voltage and temperature



Self discharge characteristics



Temperature vs Float Life

