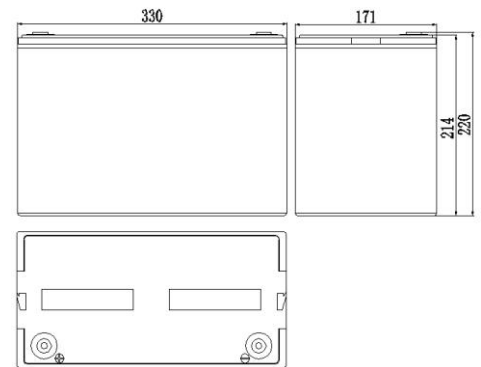


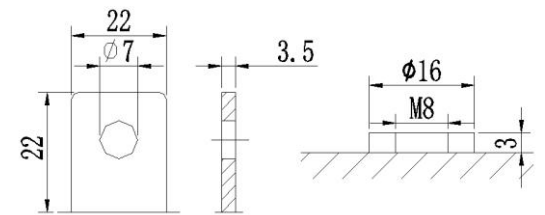
Specifications		
Nominal Voltage		12 V
Capacity(25°C)	10HR(10.8V)	100 Ah
	5HR(10.5V)	87.5Ah
	1HR(9.60V)	62Ah
Dimension	Length	330±2mm (13.0inch)
	Width	171±2mm (6.73inch)
	Height	214±2mm (8.19inch)
	Total Height	F5: 220±2mm (8.66inch)
		T9: 224±2mm (8.81inch)
Approx. Weight		26.2kg±4%
Terminal type		F5/T9
Internal resistance(Fully charged, 25°C)		Approx. 5.8m Ω
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge(25°C)	3 month	Remaining Capacity: 91%
	6 month	Remaining Capacity: 82%
	12 month	Remaining Capacity: 65%
Nominal operating temperature		25°C±3°C(77°F±5°F)
Operating temperature range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(-4°F~122°F)
Float charging voltage(25°C)		13.50 to 13.80V Temperature compensation:-18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation:-30mV/°C
Maximum charging current		30A
Terminal material		Copper
Maximum discharge current		1000A(5 sec.)
Designed floating life(20°C)		12 years



Dimensions



Terminal



Terminal F5

Terminal T10

Constant Current Discharge Characteristics (A, 25°C)

F.V/TIME	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	210	165	100	62	36.5	25.5	20.9	17.9	12.2	10.2	5.34
9.90V	204	161	98	61	36.3	25.4	20.8	17.7	12.2	10.2	5.33
10.2V	195	155	95	60	36.0	25.2	20.6	17.6	12.1	10.1	5.32
10.5V	187	150	93	58	35.5	25.0	20.5	17.5	12.0	10.1	5.29
10.8V	176	142	89	57	34.6	24.3	19.9	17.0	11.6	10.0	5.25

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/TIME	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	2268	1812	1122	707	423	300	246	211	145	122	64
9.90V	2200	1768	1100	696	421	298	244	210	145	121	64
10.2V	2109	1703	1066	679	417	296	243	208	144	121	64
10.5V	2019	1645	1040	665	411	294	241	207	143	120	63
10.8V	1905	1558	1002	645	400	285	234	201	138	119	63

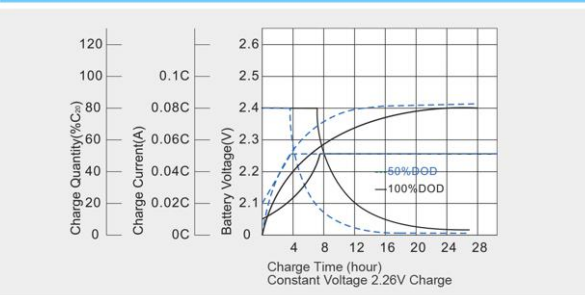
Note: The above characteristics data can be obtained within three charge/discharge cycles.

Applications	General Features	Standards
--------------	------------------	-----------

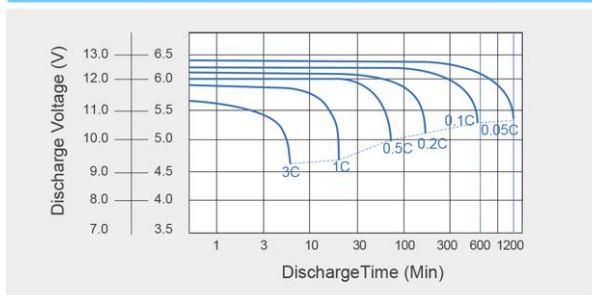
<ul style="list-style-type: none"> ● Alarm and security systems ● Emergency lighting ● Ups and Eps ● Railway signal ● Aircraft signal ● Dc Power Supply ● Solar Power systems ● Wind Power systems 	<p>Grid refining technology and the thicker plates are used to extend the battery standby life and reduce the plate grid corrosion speed</p> <p>Using oxygen recombination technology: maintenance-free</p> <p>Unique vent valve design: control water losing, prevent air and spark going inside</p>	<p>Absorbent glass mat technology</p> <p>Recognized by UL & CE</p> <p>ABS container.</p>
--	---	--

Characteristics Curve

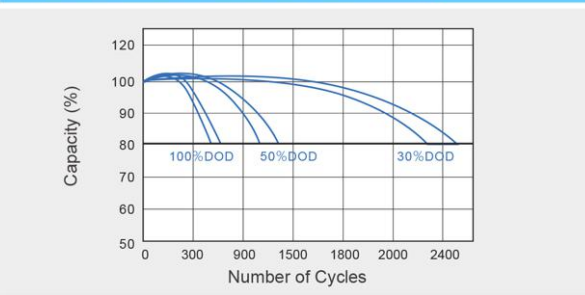
Charge Characteristics for Float Use @ 25°C/77°F



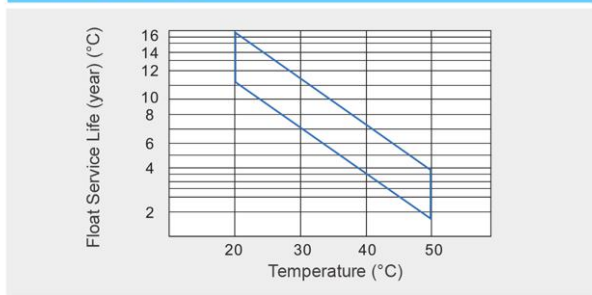
Discharge Characteristics at Various Rates @ 25°C/77°F



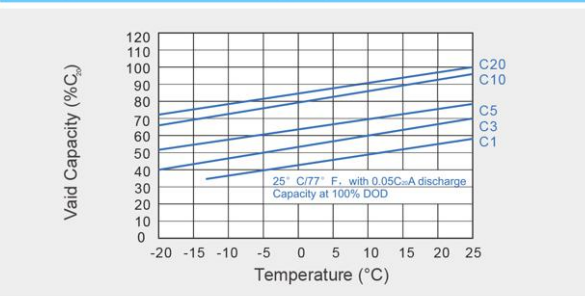
Cycle Life in Relation to Depth of Discharge



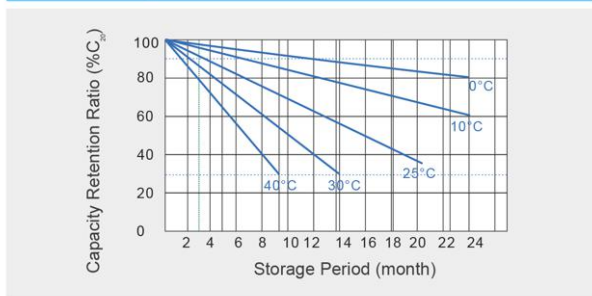
Float Service Life



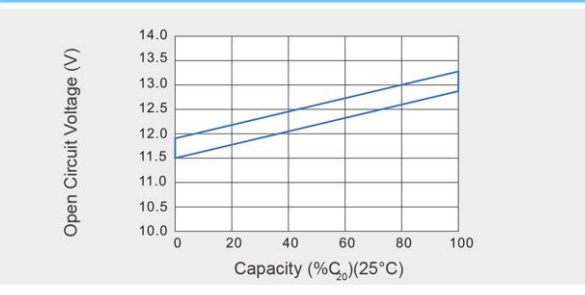
Temperature and Valid Capacity



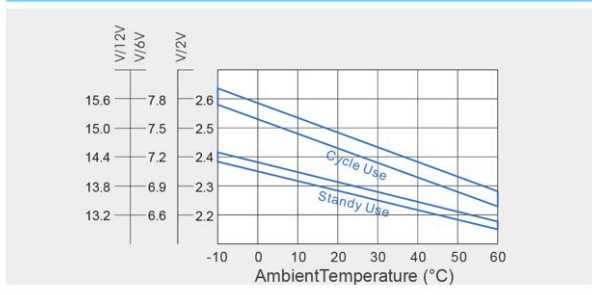
Self Discharge Charecteristics



Capacity and Open Circuit Voltage



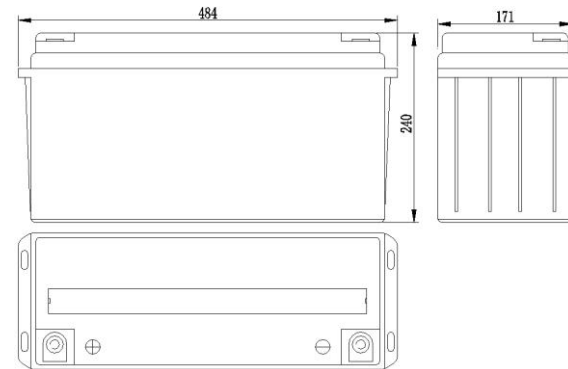
Relationship between Charging Voltage and Temperature



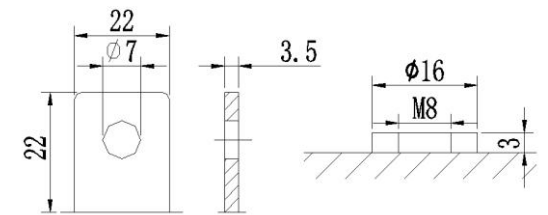
Specifications		
Nominal Voltage		12 V
Capacity(25°C)	10HR(10.8V)	150 Ah
	5HR(10.5V)	131.5Ah
	1HR(9.60V)	93.0Ah
Dimension	Length	484±2mm (19.1inch)
	Width	171±2mm (6.73inch)
	Height	240±2mm (9.45inch)
	Total Height	F5: 242±2mm (9.52inch)
		T10: 240±2mm (9.45inch)
Approx. Weight		38.04kg±4%
Terminal type		F5/T9
Internal resistance(Fully charged, 25°C)		Approx.4.2m Ω
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge(25°C)	3 month	Remaining Capacity: 91%
	6 month	Remaining Capacity: 82%
	12 month	Remaining Capacity: 65%
Nominal operating temperature		25°C±3°C(77°F±5°F)
Operating temperature range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(-4°F~122°F)
Float charging voltage(25°C)		13.50 to 13.80VTemperature compensation:-18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70VTemperature compensation:-30mV/°C
Maximum charging current		45A
Terminal material		Copper
Maximum discharge current		1385A(5 sec.)
Designed floating life(20°C)		12 years



Dimensions



Terminal



Terminal F5

Terminal T10

Constant Current Discharge Characteristics (A, 25°C)

F.V/TIME	10min	15min	30min	60min	90min	2h	3h	5h	8h	10h	20h
9.60V	315	248	150	93.0	69.0	54.8	38.3	26.8	18.4	15.3	8.02
9.90V	306	242	147	91.6	68.6	54.5	38.0	26.6	18.3	15.2	8.00
10.2V	293	233	143	89.3	68.0	54.0	37.8	26.4	18.1	15.2	7.98
10.5V	280	225	139	87.5	66.9	53.2	37.5	26.3	18.0	15.1	7.93
10.8V	265	213	134	84.8	66.2	51.8	36.4	25.5	17.5	15.0	7.88

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/TIME	10min	15min	30min	60min	90min	2h	3h	5h	8h	10h	20h
9.60V	3402	2718	1683	1060	787	635	450	316	218	182	96.2
9.90V	3300	2652	1649	1044	782	631	447	315	217	182	96.0
10.2V	3164	2554	1599	1018	775	625	444	312	215	181	95.7
10.5V	3028	2468	1560	998	763	616	441	310	214	180	95.2
10.8V	2858	2337	1503	967	755	600	428	301	207	179	94.5

Note: The above characteristics data can be obtained within three charge/discharge cycles.

Applications

- Alarm and security systems
- Emergency lighting
- Ups and Eps
- Railway signal
- Aircraft signal
- Dc Power Supply
- Solar Power systems
- Wind Power systems

General Features

Grid refining technology and the thicker plates are used to extend the battery standby life and reduce the plate grid corrosion speed

Using oxygen recombination technology: maintenance-free

Unique vent valve design: control water losing, prevent air and spark going inside

Standards

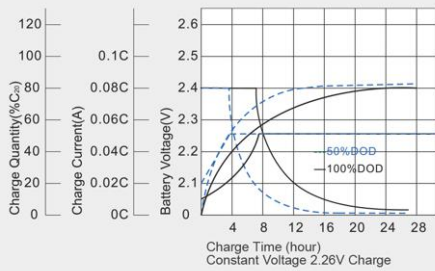
Absorbent glass mat technology

Recognized by UL & CE

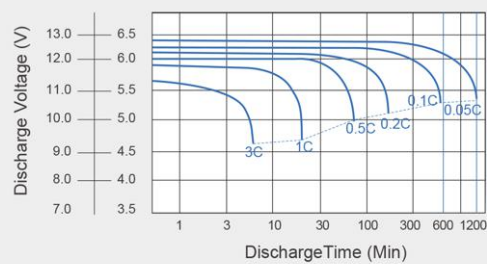
ABS container.

Characteristics Curve

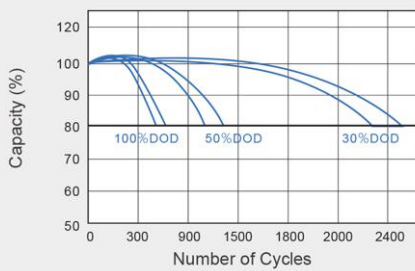
Charge Characteristics for Float Use @ 25°C/77°F



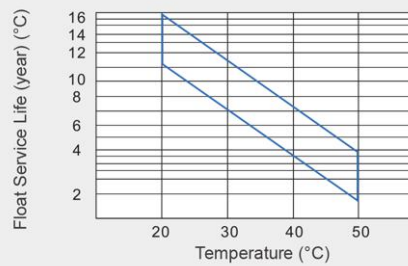
Discharge Characteristics at Various Rates @ 25°C/77°F



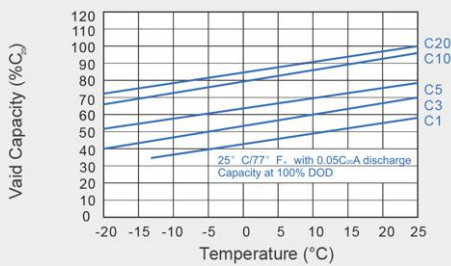
Cycle Life in Relation to Depth of Discharge



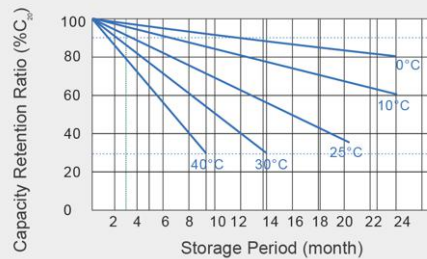
Float Service Life



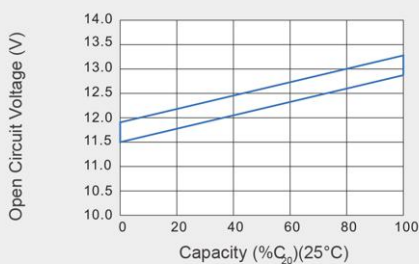
Temperature and Valid Capacity



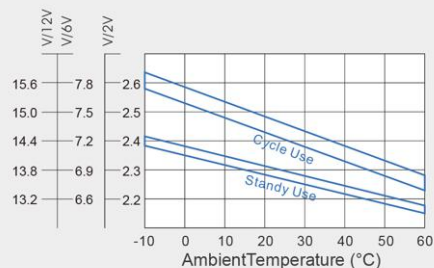
Self Discharge Characteristics



Capacity and Open Circuit Voltage



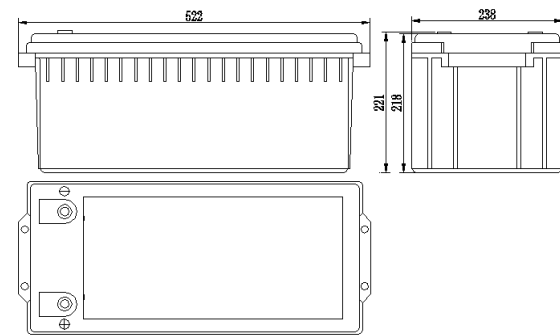
Relationship between Charging Voltage and Temperature



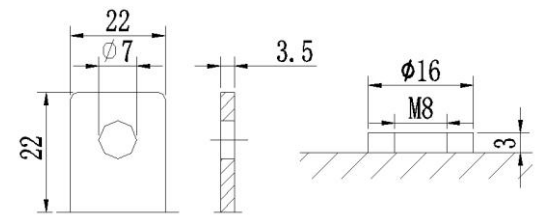
Specifications		
Nominal Voltage		12 V
Capacity(25°C)	10HR(10.8V)	200 Ah
	5HR(10.5V)	175Ah
	1HR(9.60V)	124Ah
Dimension	Length	522±2mm (20.6inch)
	Width	238±2mm (9.37inch)
	Height	221±2mm (8.66inch)
	Total Height	F5: 238±2mm (9.37inch)
		T10: 221±2mm (8.70inch)
Approx. Weight		57.3kg±4%
Terminal type		F5/T10
Internal resistance(Fully charged, 25°C)		Approx. 2.7m Ω
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge(25°C)	3 month	Remaining Capacity: 91%
	6 month	Remaining Capacity: 82%
	12 month	Remaining Capacity: 65%
Nominal operating temperature		25°C±3°C(77°F±5°F)
Operating temperature range	Discharge	-15°C~50°C(5°F~122°F)
	Charge	-10°C~50°C(14°F~122°F)
	Storage	-20°C~50°C(-4°F~122°F)
Float charging voltage(25°C)		13.50 to 13.80V Temperature compensation:-18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation:-30mV/°C
Maximum charging current		60A
Terminal material		Copper
Maximum discharge current		1600A(5 sec.)
Designed floating life(20°C)		12 years



Dimensions



Terminal



Terminal F5

Terminal T10

Constant Current Discharge Characteristics (A, 25°C)

F.V/TIME	10min	15min	30min	60min	90min	2h	3h	5h	8h	10h	20h
9.60V	420	330	200	124	92.0	73.1	51.0	35.7	24.5	20.4	10.69
9.90V	407	322	196	122	91.4	72.6	50.7	35.5	24.3	20.3	10.67
10.2V	391	310	190	119	90.6	72.0	50.4	35.2	24.2	20.3	10.64
10.5V	374	300	185	117	89.2	70.9	50.0	35.0	24.0	20.1	10.57
10.8V	353	284	179	113	88.3	69.1	48.5	34.0	23.3	20.0	10.50

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/TIME	10min	15min	30min	60min	90min	2h	3h	5h	8h	10h	20h
9.60V	4536	3623	2244	1414	1049	846	600	422	291	243	128
9.90V	4400	3536	2199	1392	1042	841	596	419	289	243	128
10.2V	4218	3406	2132	1357	1033	834	592	417	287	242	128
10.5V	4037	3290	2080	1330	1017	821	588	414	285	240	127
10.8V	3810	3116	2004	1289	1007	800	570	401	277	239	126

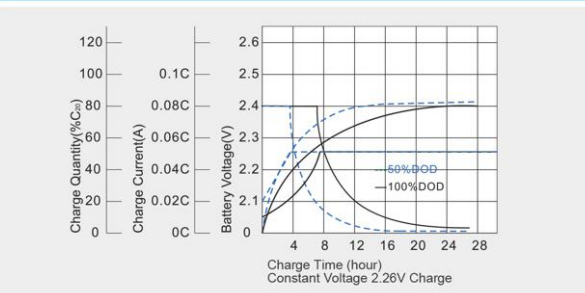
Note: The above characteristics data can be obtained within three charge/discharge cycles.

Applications	General Features	Standards
--------------	------------------	-----------

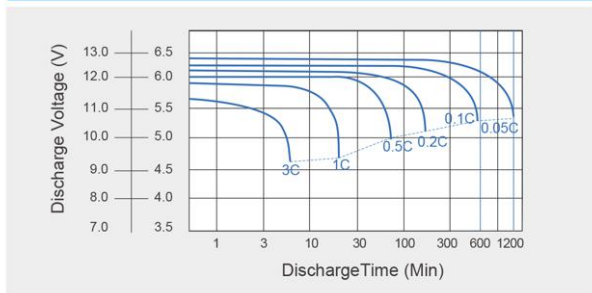
<ul style="list-style-type: none"> ● Alarm and security systems ● Emergency lighting ● Ups and Eps ● Railway signal ● Aircraft signal ● Dc Power Supply ● Solar Power systems ● Wind Power systems 	<p>Grid refining technology and the thicker plates are used to extend the battery standby life and reduce the plate grid corrosion speed</p> <p>Using oxygen recombination technology: maintenance-free</p> <p>Unique vent valve design: control water losing, prevent air and spark going inside</p>	<p>Absorbent glass mat technology</p> <p>Recognized by UL & CE</p> <p>ABS container.</p>
--	---	--

Characteristics Curve

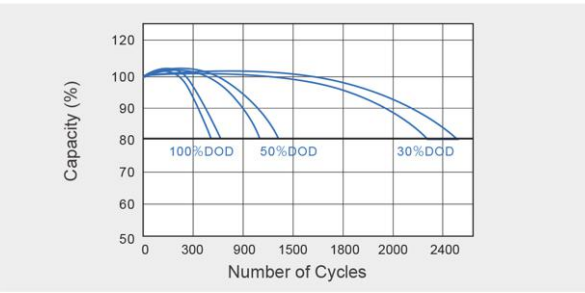
Charge Characteristics for Float Use @ 25°C/77°F



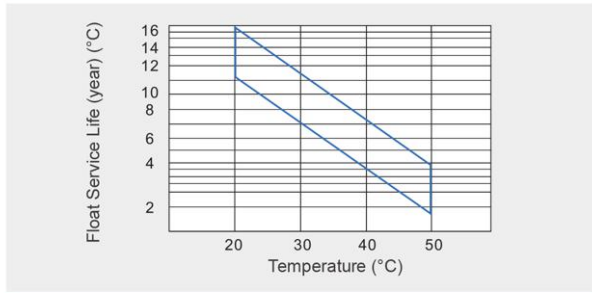
Discharge Characteristics at Various Rates @ 25°C/77°F



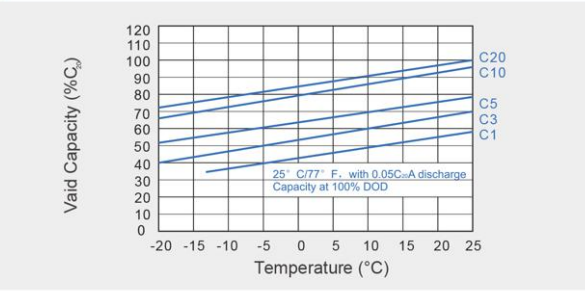
Cycle Life in Relation to Depth of Discharge



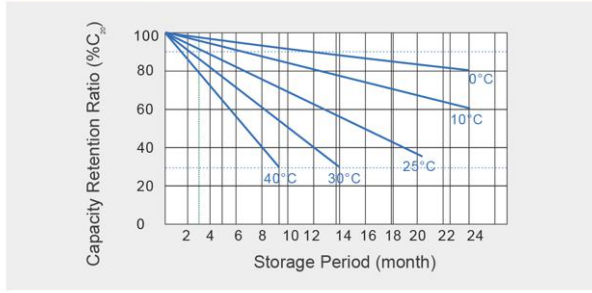
Float Service Life



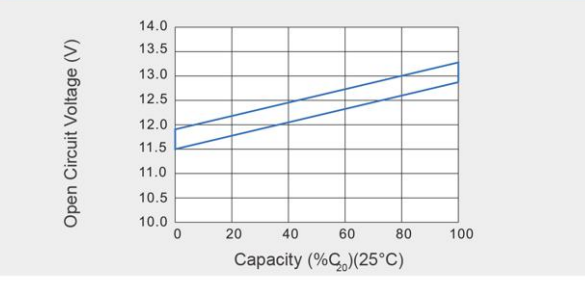
Temperature and Valid Capacity



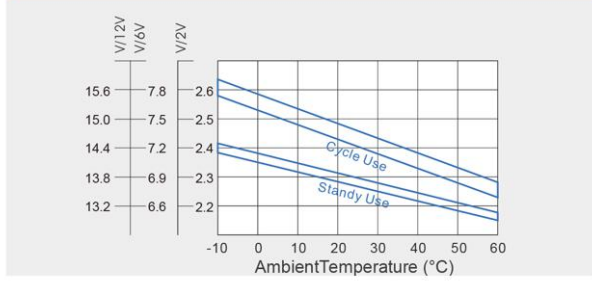
Self Discharge Charecteristics



Capacity and Open Circuit Voltage



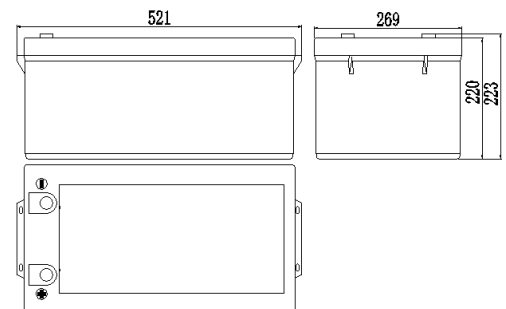
Relationship between Charging Voltage and Temperature



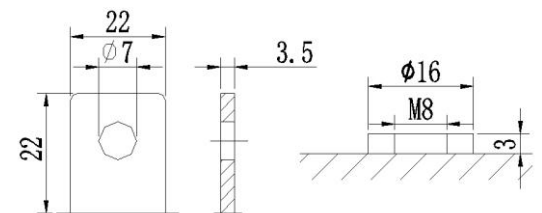
Specifications		
Nominal Voltage		12 V
Capacity(25)	10HR(10.8V)	250 Ah
	5HR(10.5V)	215Ah
	1HR(9.60V)	155Ah
Dimension	Length	521 ± 2mm (20.5inch)
	Width	269 ± 2mm (10.6inch)
	Height	220 ± 2mm (8.66inch)
	Total Height	F5: 242 ± 2mm (9.53inch)
		T9: 223 ± 2mm (8.78inch)
Approx. Weight		65.6kg ± 4%
Terminal type		F5/T10
Internal resistance(Fully charged, 25°C)		Approx. 2.7m Ω
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge(25°C)	3 month	Remaining Capacity: 91%
	6 month	Remaining Capacity: 82%
	12 month	Remaining Capacity: 65%
Nominal operating temperature		25°C ± 3°C(77°F ± 5°F)
Operating temperature range	Discharge	-15°C ~ 50°C(5°F ~ 122°F)
	Charge	-10°C ~ 50°C(14°F ~ 122°F)
	Storage	-20°C ~ 50°C(-4°F ~ 122°F)
Float charging voltage(25°C)		13.50 to 13.80V Temperature compensation:-18mV/°C
Cyclic charging voltage(25°C)		14.40 to 14.70V Temperature compensation:-30mV/°C
Maximum charging current		75A
Terminal material		Copper
Maximum discharge current		2000A(5 sec.)
Designed floating life(20°C)		10 years



Dimensions



Terminal



Terminal F5

Terminal T10

Constant Current Discharge Characteristics (A, 25°C)

F.V/TIME	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	525	413	250	155	91.4	63.8	52.3	44.6	30.6	25.5	13.4
9.90V	509	403	245	153	90.8	63.4	52.0	44.4	30.4	25.4	13.3
10.2V	488	388	238	149	90.0	62.9	51.6	44.1	30.2	25.3	13.3
10.5V	467	375	232	146	88.7	62.5	51.3	43.8	30.0	25.2	13.2
10.8V	441	355	223	141	86.4	60.6	49.7	42.4	29.1	25.0	13.1

Constant Power Discharge Characteristics (Watt, 25°C)

F.V/TIME	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	5670	4529	2805	1767	1058	750	615	527	364	304	160
9.90V	5500	4421	2749	1740	1052	745	611	524	361	303	160
10.2V	5273	4257	2665	1696	1042	740	607	521	359	302	160
10.5V	5046	4113	2600	1663	1027	735	603	517	356	301	159
10.8V	4763	3895	2505	1612	1001	713	585	502	346	299	158

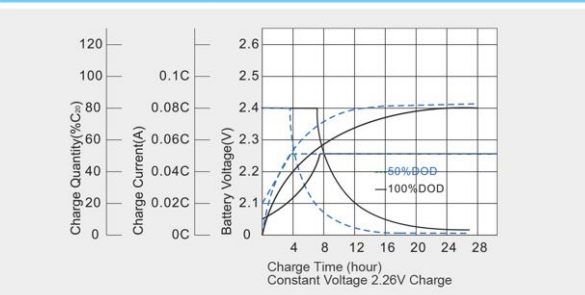
Note: The above characteristics data can be obtained within three charge/discharge cycles.

Applications	General Features	Standards
--------------	------------------	-----------

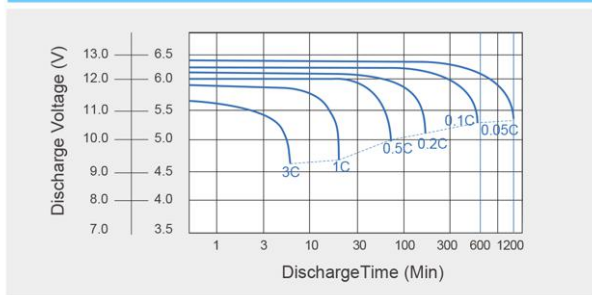
<ul style="list-style-type: none"> ● Alarm and security systems ● Emergency lighting ● Ups and Eps ● Railway signal ● Aircraft signal ● Dc Power Supply ● Solar Power systems ● Wind Power systems 	<p>Grid refining technology and the thicker plates are used to extend the battery standby life and reduce the plate grid corrosion speed</p> <p>Using oxygen recombination technology: maintenance-free</p> <p>Unique vent valve design: control water losing, prevent air and spark going inside</p>	<p>Absorbent glass mat technology</p> <p>Recognized by UL & CE</p> <p>ABS container.</p>
--	---	--

Characteristics Curve

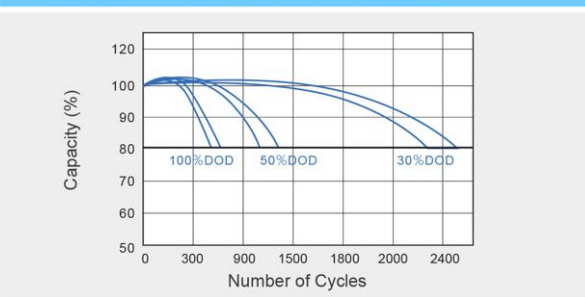
Charge Characteristics for Float Use @ 25°C/77°F



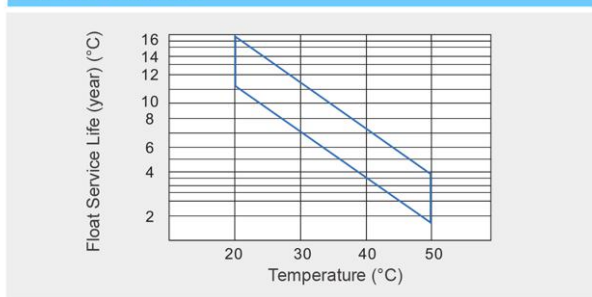
Discharge Characteristics at Various Rates @ 25°C/77°F



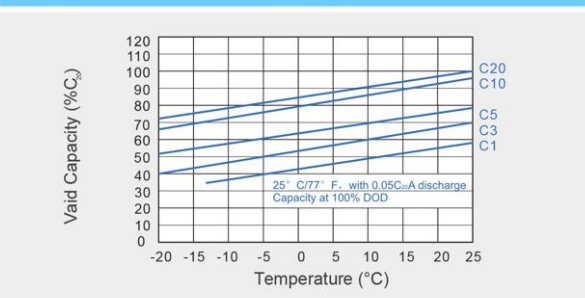
Cycle Life in Relation to Depth of Discharge



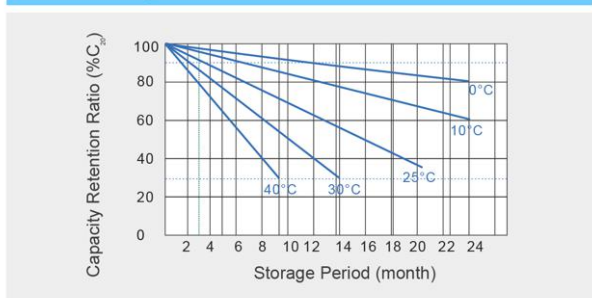
Float Service Life



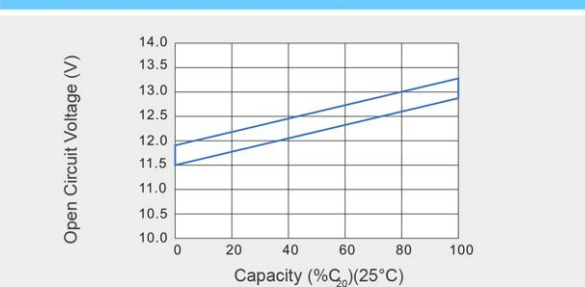
Temperature and Valid Capacity



Self Discharge Charecteristics



Capacity and Open Circuit Voltage



Relationship between Charging Voltage and Temperature

