

PT GLOBAL MRS INDONESIA

ZR 12-5 12V 5Ah

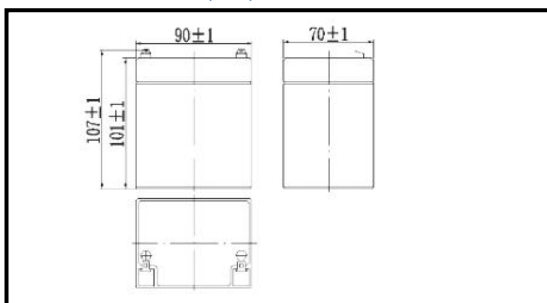
Valve Regulated Lead Acid Battery



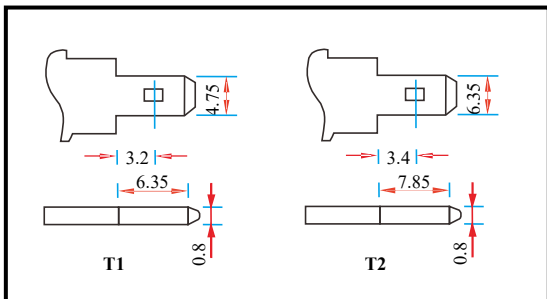
Specifications

Nominal voltage	12V (6 cells per unit)	
Rated capacity (20HR)	5Ah/10.5V	
Dimensions	Length	90±1mm (3.54inch)
	Width	70±1mm (2.76inch)
	Height	101±1mm (3.98inch)
	Total height	107±1mm (4.21inch)
Approx. weight	1.65kg (3.64lbs)±4%	

Outer dimensions (mm)



Terminal type (mm)



Characteristics

Capacity (25°C)	20HR (10.5V)	5Ah
	10HR (10.5V)	4.7Ah
	1HR (9.60V)	3Ah
Terminal type		T1/T2
Internal resistance (Fully charged, 25°C)		Approx. 27mΩ
Capacity affected by temperature (10HR)	40°C	102%
	25°C	100%
	0°C	85%
	-15°C	65%
Self-discharge (25°C)	3 months	Remaining capacity: 91%
	6 months	Remaining capacity: 82%
	12 months	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)		13.60 to 13.80V Temperature compensation: -18mV/°C/Block
Cyclic charging voltage (25°C)		14.50 to 15.00V Temperature compensation: -30mV/°C/Block
Maximum charging current		1.5A
Maximum discharge current		75A (5 sec.)
Design life	5 years for floating (25°C)	
	Eurobat (20°C): 3-5 years, standard commercial.	

Construction

Component	Positive plate	Negative plate	Container	Cover	Separator	Electrolyte	Safety valve	Terminal
Raw material	Lead dioxide	Lead	ABS	ABS	AGM	Sulfuric acid	Rubber	Copper

Constant current discharge characteristics unit: Ampere/Block (at 25°C, 77°F)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	19.1	12.1	9.45	5.33	3.28	1.79	1.24	1.03	0.87	0.47	0.25
9.90V	18.5	11.7	9.22	5.22	3.23	1.78	1.23	1.02	0.87	0.47	0.25
10.2V	17.8	11.3	8.88	5.06	3.14	1.77	1.22	1.01	0.86	0.47	0.25
10.5V	17.0	10.8	8.58	4.94	3.08	1.74	1.22	1.01	0.86	0.47	0.25
10.8V	16.0	10.2	8.13	4.76	2.99	1.69	1.18	0.97	0.83	0.46	0.25

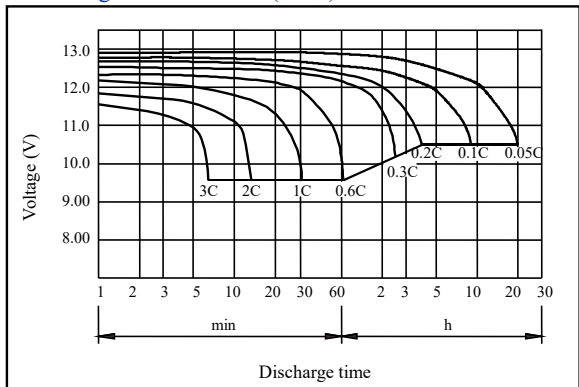
Constant power discharge characteristics unit: Watt/Block (at 25°C, 77°F)

F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	213	136	108	61.0	37.9	21.0	14.7	12.2	10.4	5.68	3.05
9.90V	207	132	105	59.8	37.4	20.8	14.6	12.1	10.4	5.66	3.03
10.2V	198	127	101	58.0	36.4	20.7	14.5	12.1	10.3	5.63	3.02
10.5V	190	121	97.8	56.6	35.7	20.3	14.4	12.0	10.2	5.60	3.00
10.8V	179	115	92.6	54.5	34.6	19.8	14.0	11.6	9.9	5.49	2.94

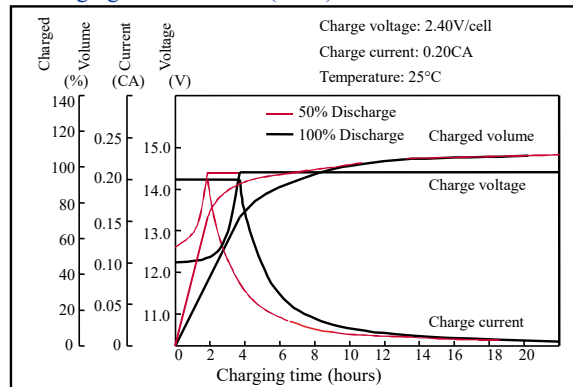
Note 1: Above characteristics data can be obtained within three charge and discharge cycles.

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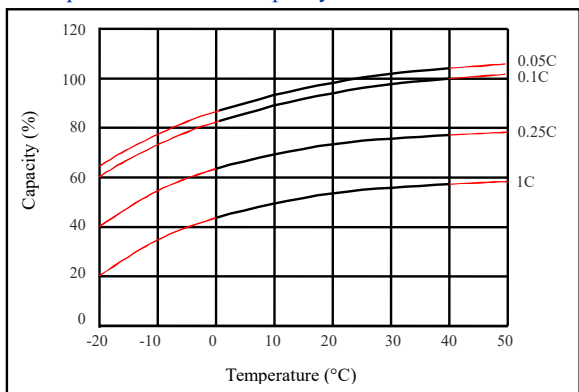
● Discharge characteristics (25°C)



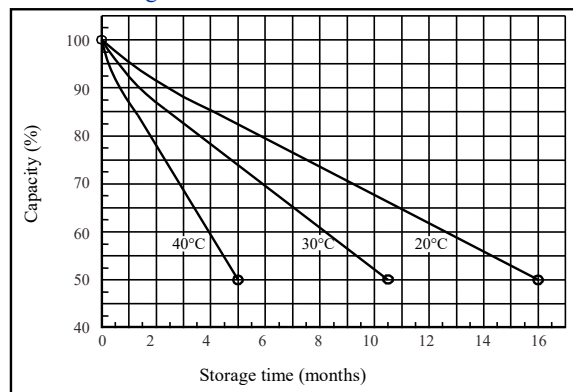
● Charging characteristics (25°C)



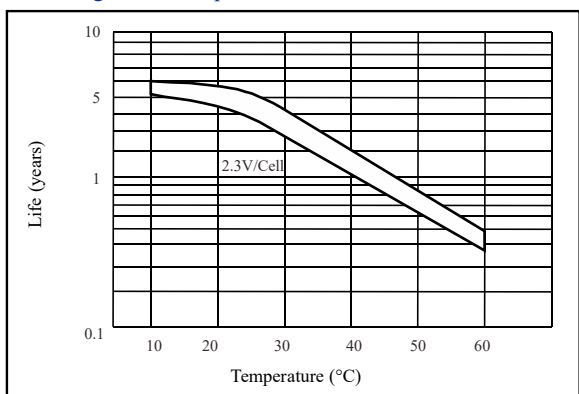
● Temperature effects on capacity



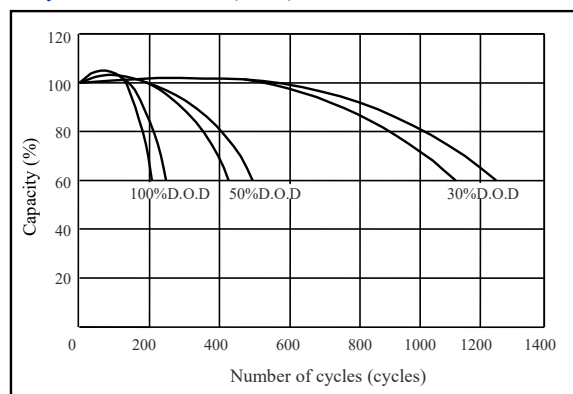
● Self-discharge characteristics



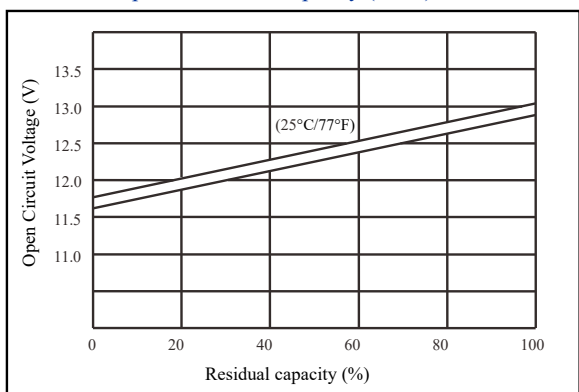
● Floating life on temperature



● Cycle life on D.O.D (25°C)



● Relationship for OCV and capacity (25°C)



● Relationship for charging voltage and temperature

