

## SPECIFICATION: CG12-45XA (12V45Ah)

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The rechargeable GEL batteries are lead-lead dioxide systems. Which are new products developed success base on SLA batteries. In contrast with AGM batteries, electrolyte of GEL batteries is composed of micro millimeter  $\text{SiO}_2$  and  $\text{H}_2\text{SO}_4$  gelled electrolyte is reversibility and steady three-dimensional network structure; especial grid alloy and gelled electrolyte "micro-crack" structure is easy for returning into  $\text{H}_2\text{O}$  when producing oxygen; special one-way valves allow the gases to escape thus avoiding excessive pressure build-up. On the other hand, the battery is completely sealed, maintenance-free, Safety and usable in any position.

### GENERAL FEATURES

- I Micro millimeter  $\text{SiO}_2$  and  $\text{H}_2\text{SO}_4$  gelled electrolyte technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance or water adding.
- I Not restricted for air transport-complies with IATA/ICAO Special Provision A67.
- I UL-recognized component.
- I Can be mounted in any orientation.
- I Computer designed lead, calcium tin alloy grid for high power density.
- I Long service life, float or cyclic applications.
- I Maintenance-free operation.
- I Low self discharge.
- I Case and cover available in both standard and flame retardant ABS.

### CONSTRUCTION

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

### TECHNOLOGY PARAMETER

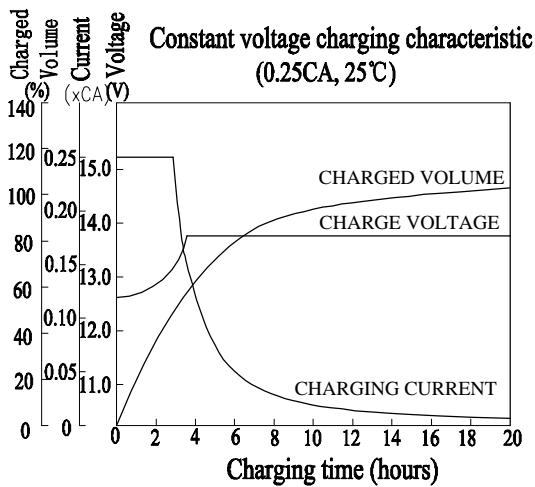
Battery model	CG12-45XA			
Nominal voltage	12V			
Number of cell	6			
Capacity (25°C)	20hR(2.25A, 10.5V)	10hR(4.06A, 10.8V)	5hR(7.27A, 10.5V)	1hR(27.3A, 9.60V)
	45Ah	40.6Ah	36.35Ah	27.3Ah
Dimensions.	Length	Width	Height	Total Height
	197.5±1mm	165.5±1mm	170±1mm	170±1mm
Approx. weight	14.6Kg (32.2 lbs) (Weight deviation: ± 3%)			
Internal resistance	Full charged at 25°C: ≤ 8.0mOhms			
Self discharge	3% of capacity declined per month at 20°C (average)			
Operating temperature range	Discharge	Charge	Storage	
	-20~60°C	-10~60°C	-20~60°C	
Max. discharge current (25°C)	450A (5s)			
Short circuit current	1050A			

**Constant current discharge rating-amperes at 25°C(77 °F)**

End Point Volts/Cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.60V	147	96.0	77.2	42.7	27.3	11.6	7.68	4.46	2.32
1.65V	138	91.2	73.3	41.3	26.9	11.4	7.55	4.36	2.30
1.70V	127	86.4	70.4	40.0	26.5	11.1	7.41	4.26	2.28
1.75V	118	81.6	66.6	38.7	26.2	10.9	7.27	4.16	2.25
1.80V	108	76.8	63.7	38.3	25.8	10.6	7.14	4.06	2.20

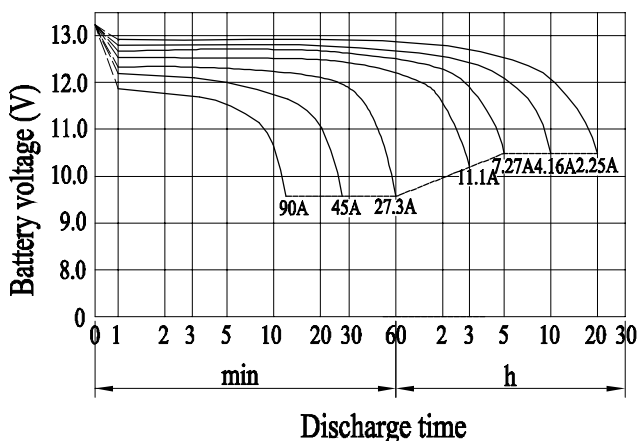
**Constant power discharge rating-watts per cell at 25°C(77 °F)**

End Point Volts/Cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.60V	259	173	139	80.5	64.6	54.2	30.5	22.5	14.8
1.65V	244	165	133	78.4	63.5	53.7	30.1	22.2	14.6
1.70V	227	157	128	76.3	62.6	53.3	29.7	21.9	14.4
1.75V	211	150	122	74.3	61.7	53.0	29.4	21.6	14.2
1.80V	195	141	117	73.9	61.1	52.5	28.9	21.1	14.1

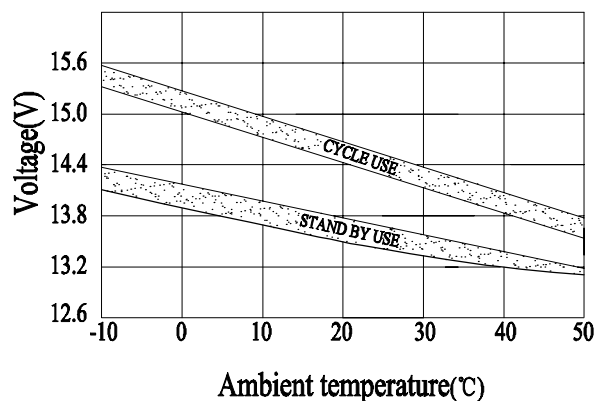


**CHARGING METHODS:** Constant voltage charging at 25°C  
 Standby use: Maximum charging current: 30% of rated capacity  
 Charging voltage: 2.20-2.30VPC  
 Cyclic use: Maximum charging current: 30% of rated capacity  
 Charging voltage: 2.40-2.45VPC  
 Temperature compensation :  
 stand by -20mV/°C; cyclic use -30mV/°C

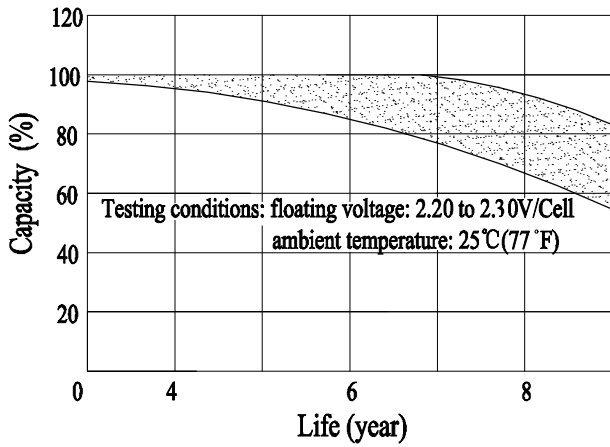
**Discharge characteristic (25°C)**



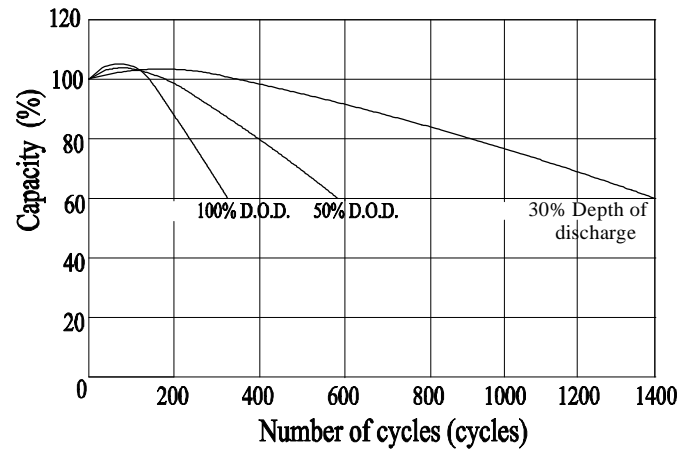
**Relationship between charge voltage and temperature**



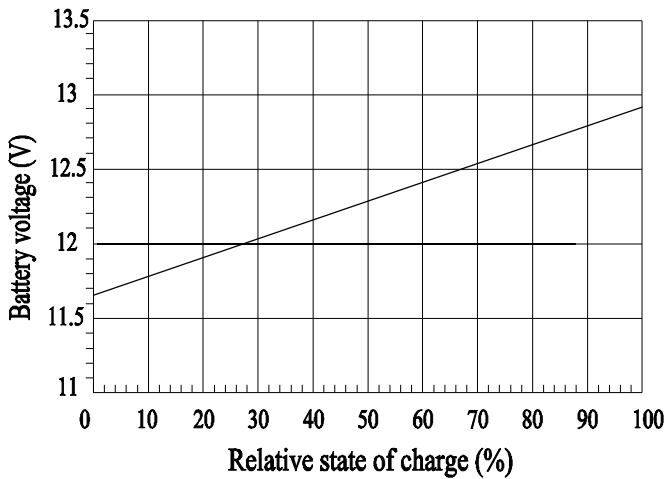
Life characteristics of standby use



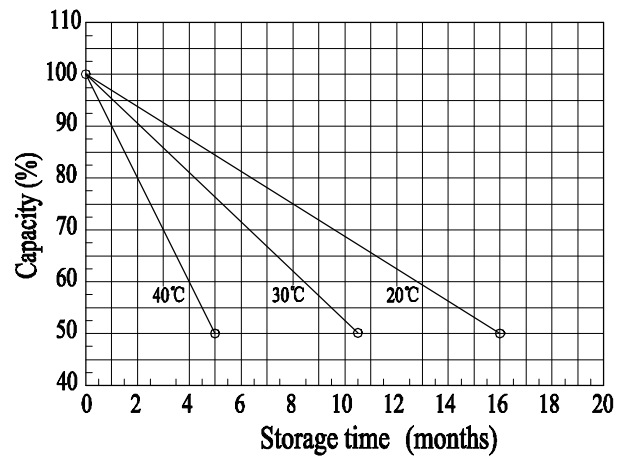
Cycle service life in relation to depth of discharge



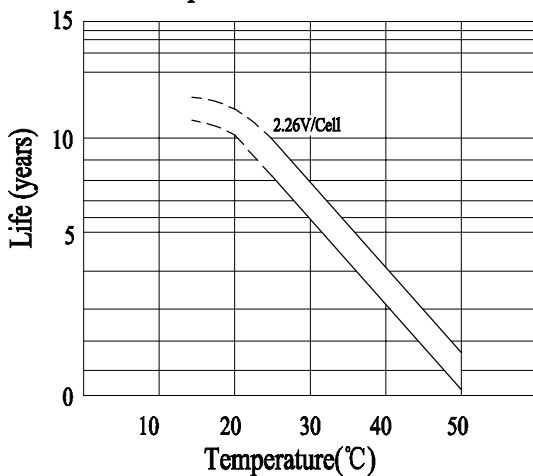
Relationship of OCV and state of charge (25°C)



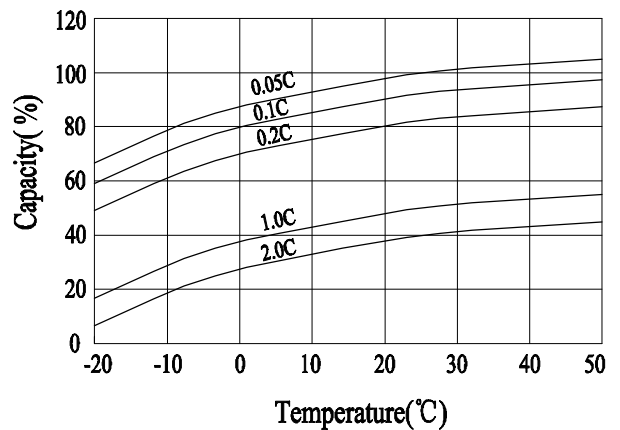
Self-discharge characteristic



Temperature effects on float life



Temperature effects on capacity



Battery and terminal dimensions

