POWERMAX

Valve Regulated Lead Acid Battery

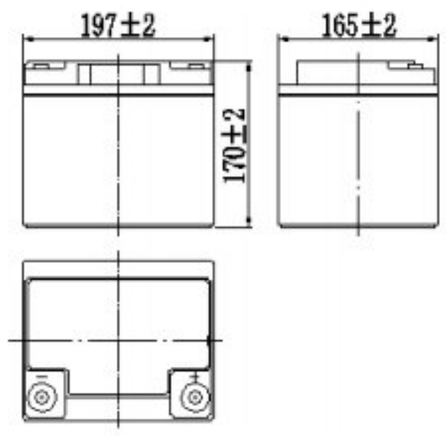
PMA12-40 12V40Ah



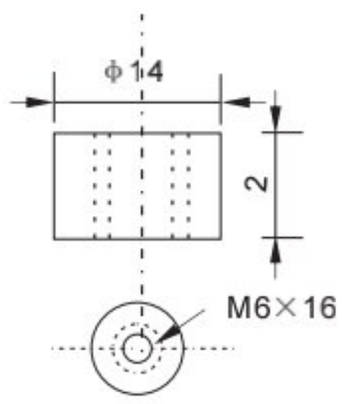
Specifications

Nominal Voltage		12V
Rated capacity (10 hour rate)		40Ah
Dimensions	Length	197±2mm(7.76inch)
	Width	165±2mm(6.50inch)
	Height	170±2mm6.69inch)
	Total Height	170±2mm(6.69inch)
Approx. Weight		12.5kg(27.6lbs)±3%

Outer dimensions (mm)



Terminal Type (mm)



T14

Characteristics

Capacity (25℃)	10HR(10.8V)	40Ah
	3HR(10.8V)	30Ah
	1HR(10.5V)	22Ah
Terminal type		T14
Internal resistance (Fully charged,25℃)		Approx.9m Ω
Capacity affected by temperature (10HR)	40℃	102%
	25℃	100%
	0℃	85%
	-15℃	65%
Self-discharge (25℃)	3 months	Remaining Capacity:91%
	6 months	Remaining Capacity:82%
	12 months	Remaining Capacity:65%
Nominal operating temperature		25℃ ±3℃(77℉ ±5℉)
Operating temperature range	Discharge	-15℃~50℃(5℉~122℉)
	Charge	-10℃~50℃(14℉~122℉)
	Storage	-20℃~50℃(-4℉~122℉)
Float charging voltage(25℃)		13.50 to 13.80V Temperature compensation: -18mV/℃
Cyclic charging voltage(25℃)		14.50 to 15.00V Temperature compensation: -30mV/℃
Maximum charging current		12A
Maximum discharge current		400A(5 sec.)
Designed floating life(20℃)		10years

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:A(25℃,77℉)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	87.2	67.2	40.2	24.7	14.6	10.5	8.40	7.18	4.94	4.07	2.16
9.90V	84.6	65.6	39.4	24.3	14.5	10.5	8.36	7.14	4.91	4.06	2.15
10.2V	81.1	63.2	38.2	23.7	14.4	10.4	8.30	7.09	4.87	4.05	2.15
10.5V	77.6	61.0	37.3	23.0	14.2	10.3	8.24	7.04	4.84	4.03	2.13
10.8V	73.2	57.8	35.9	22.2	13.8	10.0	7.99	6.83	4.69	4.00	2.12

Constant Power Discharge Characteristics Unit:W(25℃,77℉)

F.V/Time	10min	15min	30min	60min	2h	3h	4h	5h	8h	10h	20h
9.60V	942	738	451	282	169	124	98.8	84.9	58.6	48.6	25.9
9.90V	914	720	442	278	168	123	98.3	84.4	58.3	48.5	25.8
10.2V	876	694	428	271	167	122	97.6	83.8	57.9	48.4	25.8
10.5V	838	670	418	262	164	121	96.9	83.2	57.5	48.1	25.6
10.8V	791	635	403	254	160	118	94.0	80.7	55.8	47.8	25.4

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

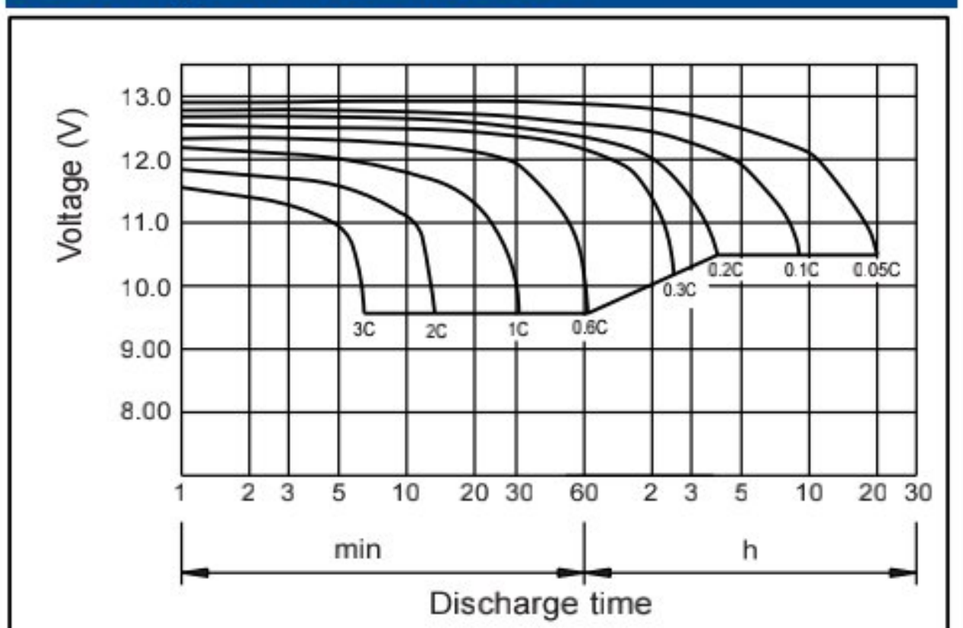
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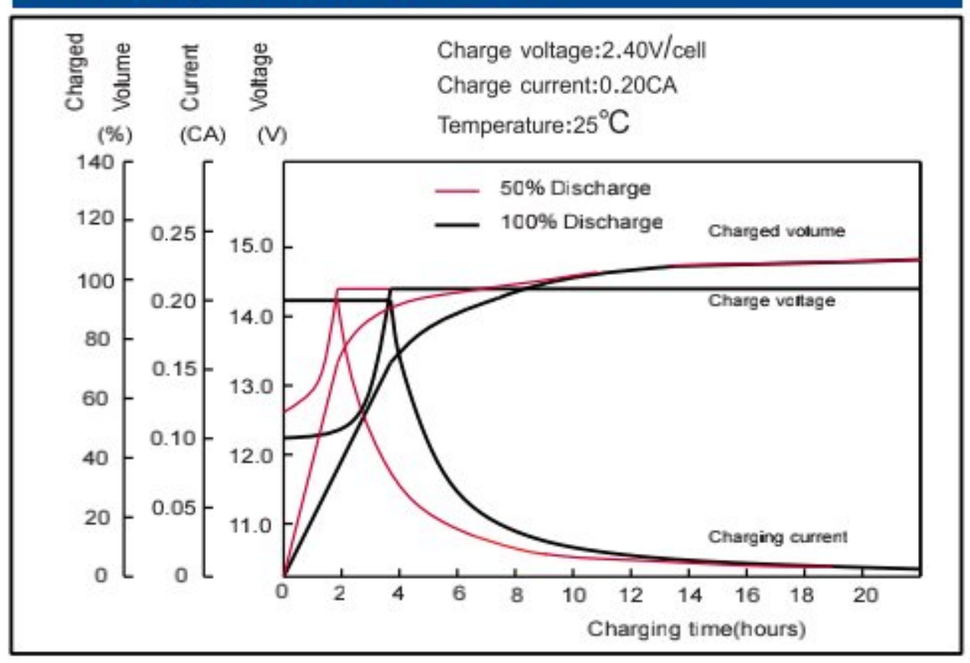
Valve Regulated Lead Acid Battery

PMA12-40 12V40Ah

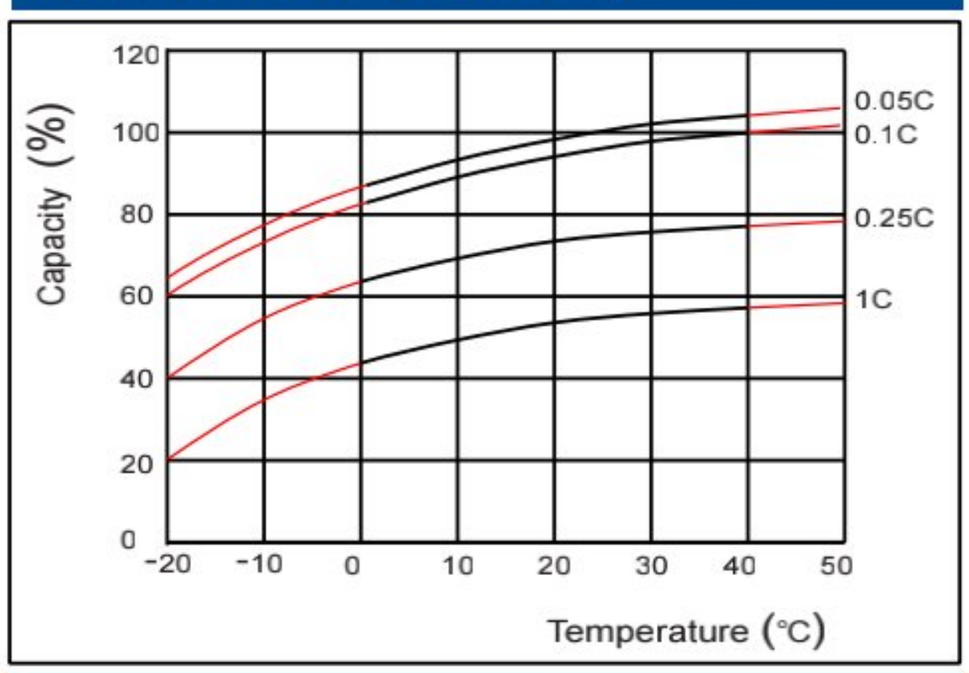
Discharge Characteristics 25℃



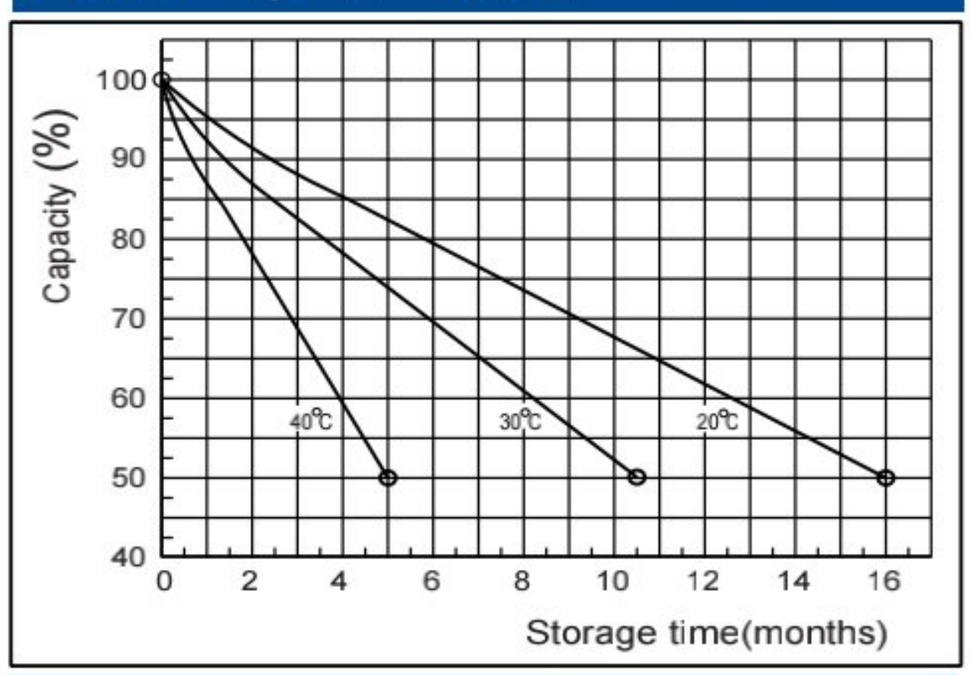
Charging Characteristics 25℃



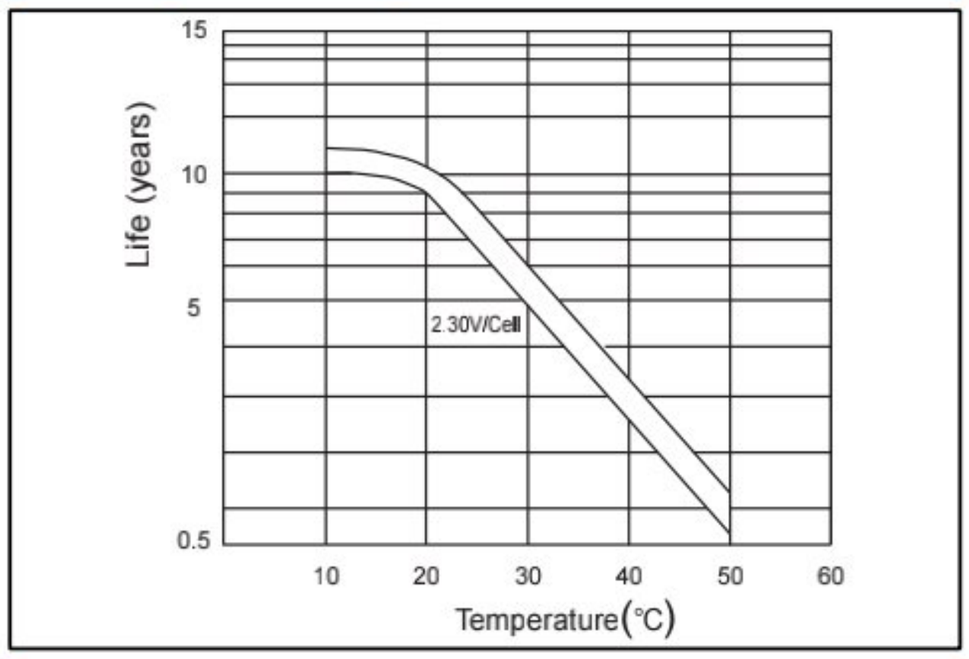
Temperature Effects on Capacity



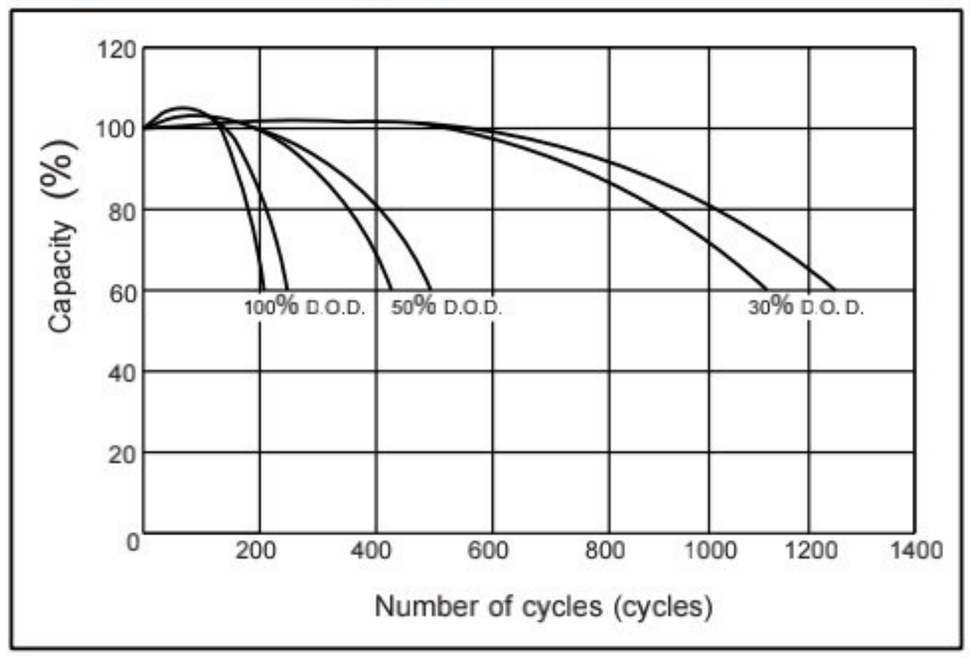
Self-discharge characteristics



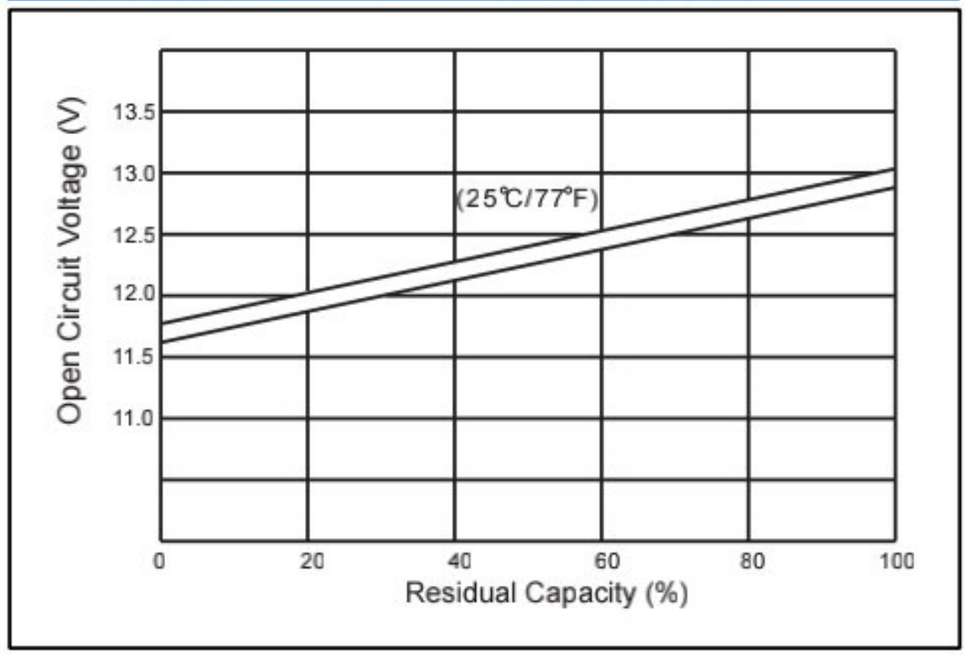
Floating life on Temperature



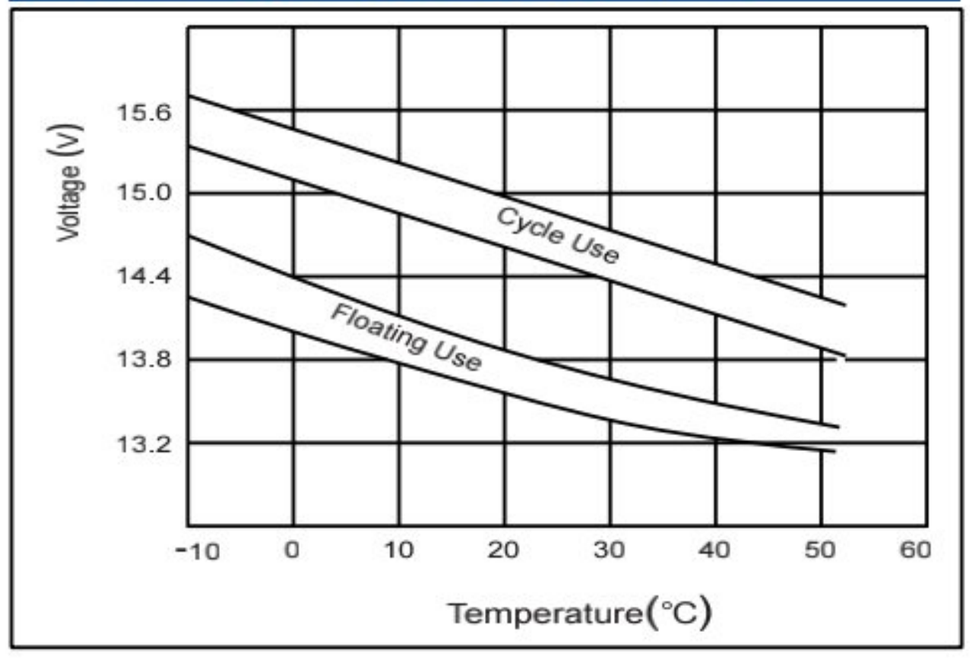
Cycle life on D.O.D (25℃)



The relationship for OCV and Capacity (25℃)



The relationship for Charging voltage and Temperature



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