

# AP12-3.3 12V3.3Ah



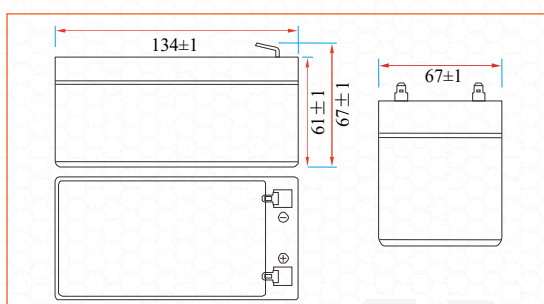
## Sealed Maintenance Free / VRLA Battery

### Specifications

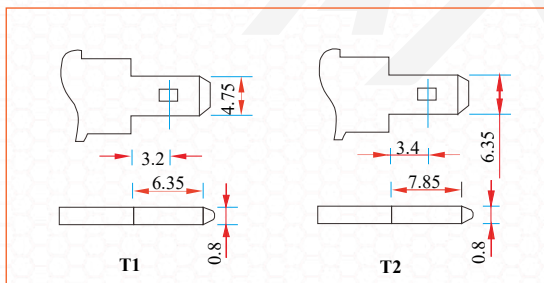
Nominal voltage	12V (6 cells per unit)	
Rated capacity (20HR)	3.3Ah/10.5V	
Dimensions	Length	134±1mm (5.28inch)
	Width	67±1mm (2.64inch)
	Height	61±1mm (2.40inch)
	Total height	67±1mm (2.64inch)
Approx. weight	1.20kg (2.65lbs)±5%	



### Outer dimensions (mm)



### Terminal type (mm)



### Characteristics

Capacity (25°C)	20HR (10.5V)	3.3Ah
	10HR (10.5V)	3.0Ah
	1HR (9.60V)	2.0Ah
Terminal type		T1/T2
Internal resistance (Fully charged, 25°C)		Approx. 50mΩ
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	0.96A	
Maximum discharge current	48A (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)

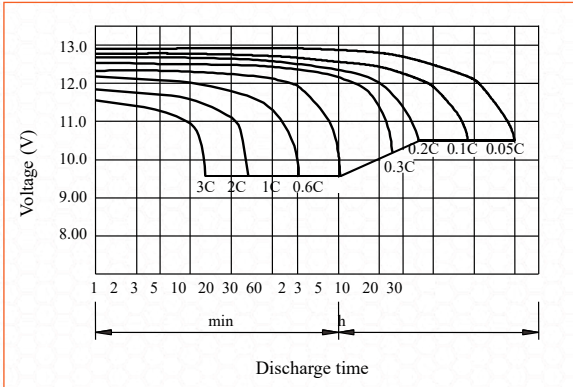
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	12.2	7.74	6.05	3.41	2.10	1.15	0.79	0.66	0.56	0.30	0.16
9.90V	11.9	7.51	5.90	3.34	2.06	1.14	0.79	0.65	0.55	0.30	0.16
10.2V	11.4	7.20	5.69	3.24	2.01	1.13	0.78	0.65	0.55	0.30	0.16
10.5V	10.9	6.89	5.49	3.16	1.97	1.11	0.78	0.64	0.55	0.30	0.16
10.8V	10.3	6.50	5.20	3.04	1.91	1.08	0.75	0.62	0.53	0.29	0.16

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

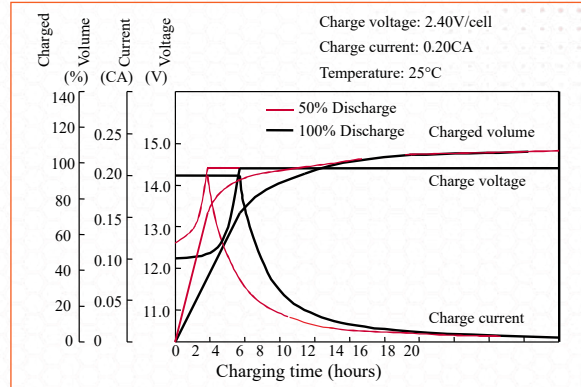
F.V/Time	5min	10min	15min	30min	60min	2h	3h	4h	5h	10h	20h
9.60V	136	87.4	68.9	39.1	24.3	13.4	9.42	7.81	6.66	3.64	1.95
9.90V	132	84.7	67.3	38.3	23.9	13.3	9.37	7.77	6.63	3.62	1.94
10.2V	127	81.2	64.8	37.1	23.3	13.2	9.30	7.71	6.58	3.60	1.93
10.5V	121	77.7	62.6	36.2	22.8	13.0	9.24	7.66	6.53	3.58	1.92
10.8V	115	73.4	59.3	34.9	22.1	12.7	8.96	7.43	6.34	3.51	1.88

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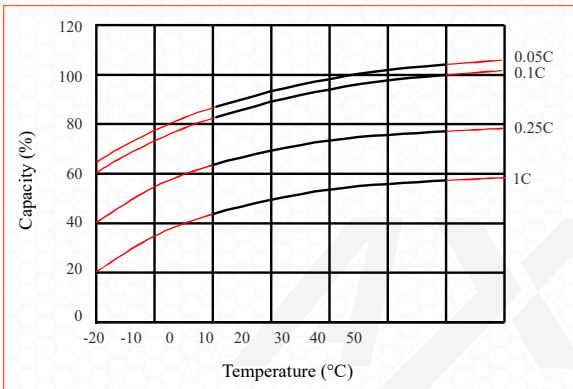
Discharge characteristics (25°C)



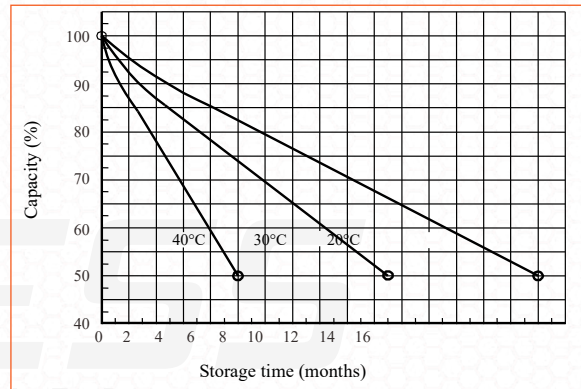
Charging characteristics (25°C)



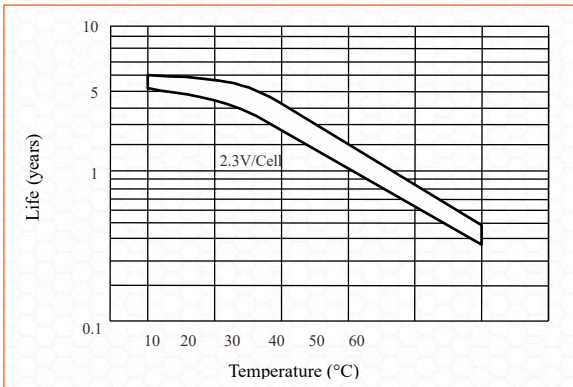
Temperature effects on capacity



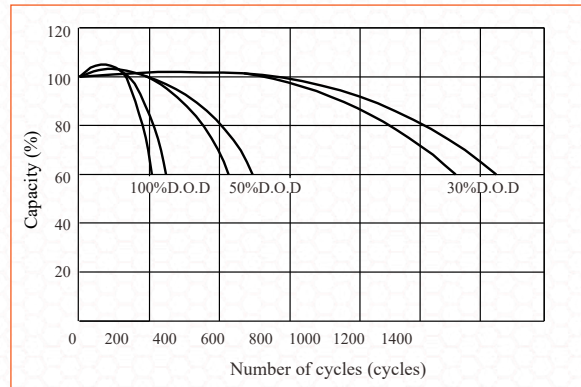
Self-discharge characteristics



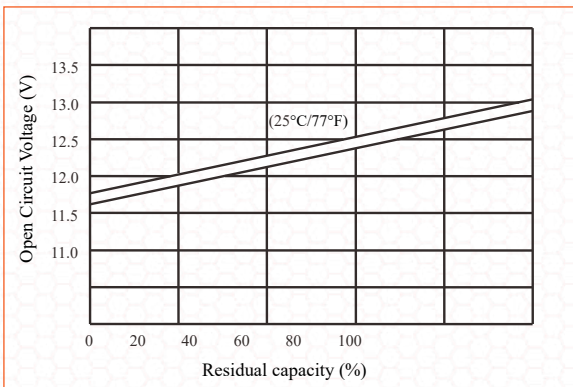
Floating life on temperature



Cycle life on D.O.D (25°C)



Relationship for OCV and capacity (25°C)



Relationship for charging voltage and temperature

