

# universal battery® GEL TYPE

Gelled Silica technology for superior performance. Valve regulated, spill proof construction allows safe operation in any position. Approved for transport by air. D.O.T., I.A.T.A., F.A.A. and C.A.B. certified. U.L. recognized under file number MH 20567.

# UB22NF

Maintenance-Free

## Specification

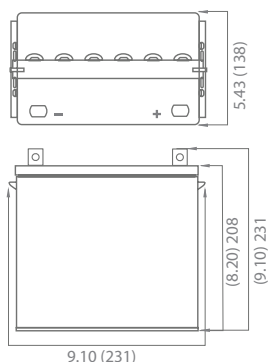
<b>Nominal Voltage</b>	12 volts		
<b>Nominal Capacity</b>	77° F (25° C)		
20-hr. (2.75A)	55.00 Ah		
10-hr. (5.12A)	51.15 Ah		
5-hr. (9.35A)	46.75 Ah		
1-hr. (33.0A)	33.00 Ah		
<b>Approximate Weight</b>	35.5 lbs (16.1kgs)		
<b>Internal Resistance (approx.)</b>	10mΩ		
<b>Shelf Life (% of normal capacity at 77° F (25° C))</b>			
3 Months	6 Months	12 Months	
91%	82%	64%	
<b>Temperature Dependency of Capacity (20 hour rate)</b>			
104° F (40°C)	77° F (25°C)	32° F (0°C)	5° F (-15°C)
102%	100%	85%	65%
<b>GEL Operational Temperature</b>			
Charge	32 F to 113 F (0 C to 45 C)		
Discharge	5°F to 131°F (-15°C to 55°C)		
<b>GEL Storage Temperature</b>	5°F to 104°F (-15°C to 40°C)		
<b>UPG Recommends</b>	32°F to 86°F (0°C to 30°C) Storage		



Due to continuous improvements to our products, product may vary slightly from depiction.

<b>Charge Method (Constant Voltage)</b>		
<b>Cycle Use (Repeating Use)</b>		
Initial Current	11.00 A or smaller	
Control Voltage	14.2 - 14.4 V	
<b>Float Use</b>		
Control Voltage	13.2 - 13.4 V	

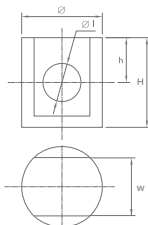
## Physical Dimensions: in (mm)



**L:** 9.10 in (231 mm)  
**W:** 5.43 in (138 mm)  
**H:** 8.20 in (208 mm)  
**TH:** 9.10 in (231 mm)  
 Tolerances are +/- 0.04 in. (+/- 1mm) and +/- 0.08 in. (+/- 2mm) for height dimensions. All data subject to change without notice.

## Terminals

### Z Series (Z Post Terminal)



Dimension	∅	∅1	H	h	w
Type	17.0 mm	8.00 mm	21.5 mm	9.00 mm	13.3 mm
Z1	0.67 in	0.32 in	0.85 in	0.35 in	0.52 in

**Polarity**  
 Positive on Right

## Constant Current Discharge Characteristics Unit:A (25°C, 77°F)

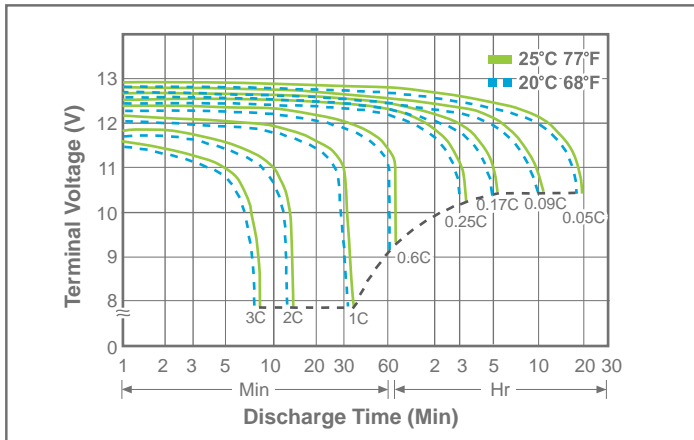
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	5HR	8HR	10HR	20HR
9.60	135	104	81	54.4	32.9	20.2	14.1	9.56	6.37	5.31	2.79
9.90	131	100	79.4	53.3	32.3	20.1	14.0	9.51	6.34	5.28	2.77
10.2	128	98	77.8	52.2	31.6	19.9	13.9	9.41	6.31	5.26	2.76
10.5	124	95	75.4	50.6	30.6	19.7	13.7	9.32	6.29	5.24	2.75
10.8	105	92	73.9	49.6	30.0	19.5	13.6	9.23	6.28	5.23	2.75

## Constant Power Discharge Characteristics Unit:W (25°C, 77°F)

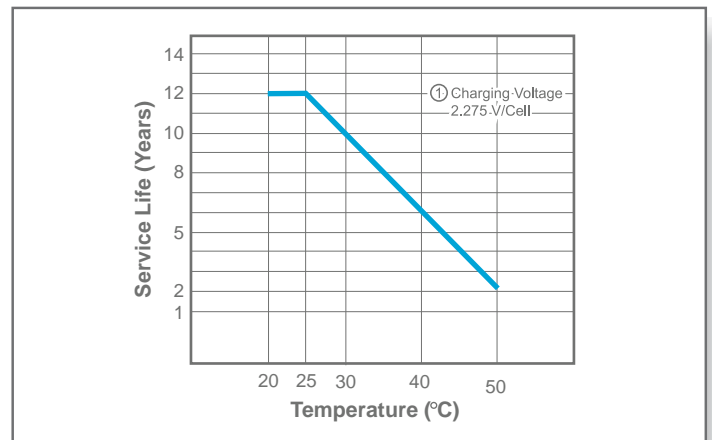
F.V/Time	5MIN	10MIN	15MIN	30MIN	1HR	2HR	3HR	5HR	8HR	10HR	20HR
9.60	1417	1118	890.1	610.3	375.6	233.6	165.4	112.9	76.44	63.38	33.44
9.90	1374	1085	872.3	598.1	368.1	232.4	164.6	112.4	76.07	63.07	33.28
10.2	1346	1062	854.5	585.9	360.6	230.1	163.0	111.3	75.76	62.82	33.15
10.5	1303	1029	827.8	567.6	349.3	227.8	161.4	110.2	75.50	62.60	33.03
10.8	1105	999	811.8	556.6	342.6	225.5	159.7	109.0	75.31	62.45	32.95

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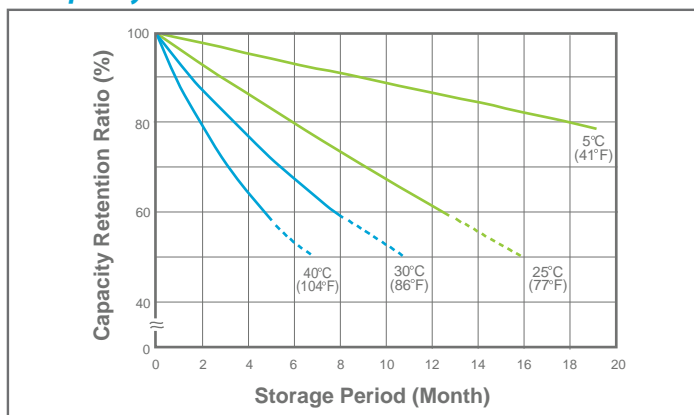
## Terminal Voltage (V) and Discharge Time



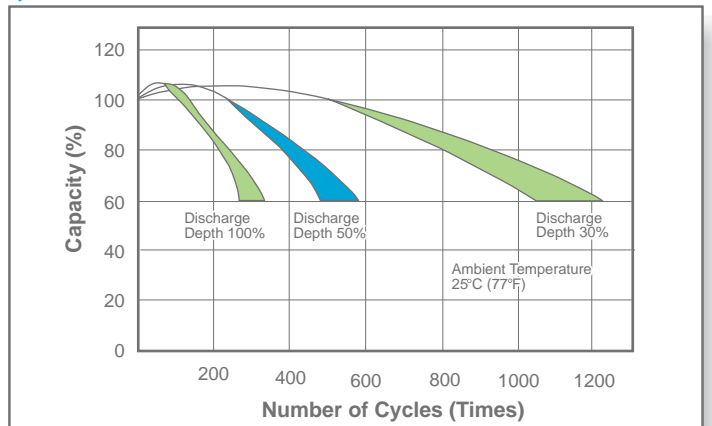
## Trickle (or float) Service Life



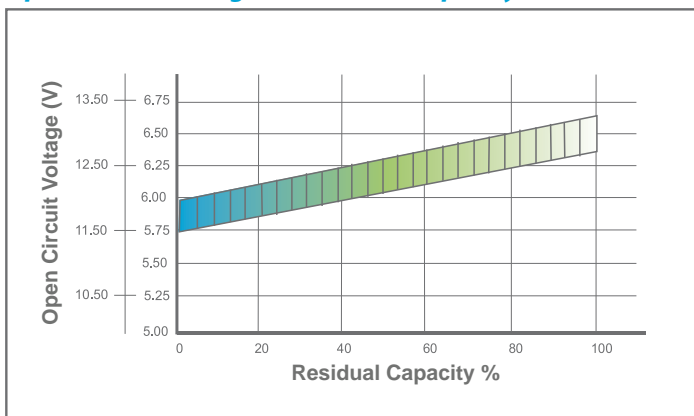
## Capacity Retention Characteristic



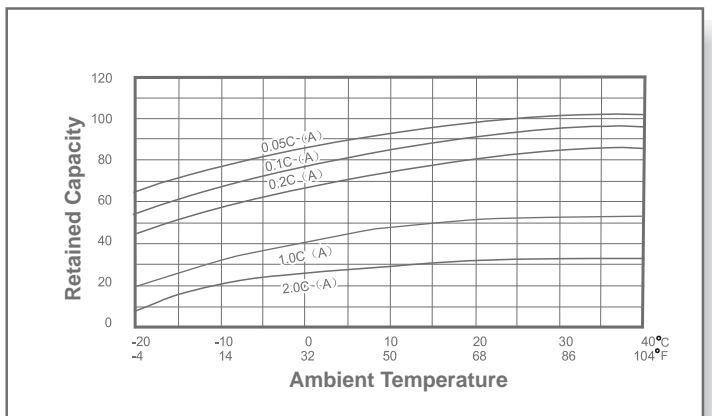
## Cycle Service Life



## Open Circuit Voltage vs Residual Capacity



## Effect of Temperature on Capacity



## Charge Current & Final Discharge Voltage

Application	Charge Voltage(V/Cell)			Max.Charge Current	Final Discharge Voltage V/Cell	1.75	1.70	1.60	1.30
	Temperature	Set Point	Allowable Range						
Cycle Use	25°C (77°F)	2.40	2.36-2.40	0.20C	Discharge	0.2C > (A)	0.2C < (A) < 0.5C	0.5C < (A) < 1.0C	(A) > 1.0C
Standby	25°C (77°F)	2.23	2.20-2.23		Current(A)				



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