

## KB645 6V 4.5Ah

The KB Standard series consists in VRLA batteries - AGM technology (Absorbent Glass Mat), with a design life of 3-5 years and it is designed for general applications such as UPS, telecommunications and electrical applications.



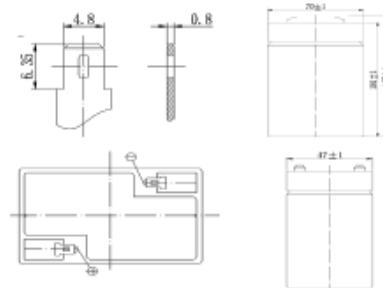
### Performance Characteristics

Nominal Voltage	6V		
Dimensions	Length (mm / inch)	70 / 2.76	
	Width (mm / inch)	47 / 1.85	
	Height (mm / inch)	101 / 3.98	
	Total Height (mm / inch)	107 / 4.21	
Approx. Weight	[Kg / lbs] 0.77 / 1.70		
Design Life	5 years		
Terminal	F1		
Container Material	ABS		
Rated Capacity	4.5Ah / 0.225A	(20hr, 5.28V / cell, 25°C / 77°F)	
	4.4Ah / 0.44A	(10hr, 5.28V / cell, 25°C / 77°F)	
	3.6Ah / 0.72A	(5hr, 5.28V / cell, 25°C / 77°F)	
	3.0Ah / 3.0A	(1hr, 4.8V / cell, 25°C / 77°F)	
Max. Discharge Current	67.5A (5s)		
Internal Resistance	Approx. 27mΩ		
Operating Temp. Range	Discharge: -20 - 60°C (-4 - 140°F)		
	Charge: -10 - 60°C (14 - 140°F)		
	Storage: -20 - 60°C (-4 - 140°F)		
Nominal Operating Temp. Range	25 ± 3°C (77 ± 5°F)		
Cycle Use	Initial Charging Current less than 1.6A		
	Voltage: 2.4V - 2.45V at 25°C (77°F)		
	Temp. Coefficient: -15mV/°C		
Standby Use	No limit on Initial Charging Current Voltage		
	Voltage: 2.23V - 2.31V at 25°C (77°F)		
Capacity affected by Temperature	Temp. Coefficient: -10mV/°C		
	40°C (104°F)	103%	
	25°C (77°F)	100%	
Self Discharge	0°C (32°F)		
	86%		
Self Discharge	Fully charged Kaise Standard Series batteries may be stored for up to 6 months at 25°C (77°F) and then a freshening charge is required. For higher temperatures the time interval will be shorter.		

### Discharge Constant Current (Amperes) at 77°F (25°C)

Volts/cell	5min	10min	15min	30min	1h	3h	5h	10h	20h
1.80V	12.5	9.0	7.33	3.98	2.58	1.06	0.69	0.43	0.221
1.75V	13.4	9.5	7.77	4.19	2.71	1.11	0.72	0.44	0.225
1.70V	14.3	10.1	8.19	4.41	2.83	1.16	0.74	0.45	0.228
1.65V	15.2	10.7	8.60	4.61	2.95	1.20	0.76	0.46	0.231
1.60V	16.0	11.2	9.00	4.80	3.06	1.24	0.78	0.47	0.233

### Dimensions and Terminal (Unit: mm (inches))



### Applications

Alarm systems	Marine equipment
Cable television	Medical equipment
Communications Equipment	Micro processor based office machines
Control Equipment	Portable cine & Video lights
Computers	Solar powered systems
Electronic Cash Registers	Telecommunications systems
Electric Test Equipment	Television & Video recorders
Emergency lighting systems	Toys
Fire & Security	Uninterruptible power supply systems
Geophysical equipment	Vending machines

### Certifications

ISO 9001:2008 ISO 14001:2008



### Discharge Current vs. Discharge Voltage

Final discharge voltage VCELL	1.8	1.75	1.7	1.6
Discharge current (A)	I ≤ 0.10A	0.25CA ≥ I > 0.10A	0.65CA ≥ I > 0.25CA	I > 0.65CA

### Discharge Constant Power (Watts per cell) at 77°F (25°C)

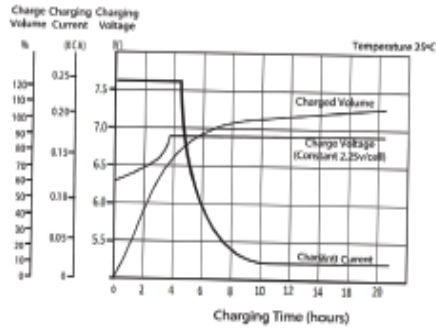
Volts/cell	5min	10min	15min	30min	45min	1h	2h	3h	5h
1.80V	24.1	17.1	13.8	7.68	6.00	4.780	2.94	2.19	1.46
1.75V	26.0	18.4	14.8	8.18	6.40	5.050	3.08	2.27	1.50
1.70V	28.0	19.7	15.5	8.69	6.78	5.300	3.20	2.34	1.53
1.65V	30.0	21.0	16.3	9.18	7.14	5.560	3.31	2.40	1.56
1.60V	32.0	22.3	17.1	9.67	7.50	5.800	3.41	2.46	1.59

(Note) The above characteristics data are average values obtained within three charge/discharge cycles not the minimum values.

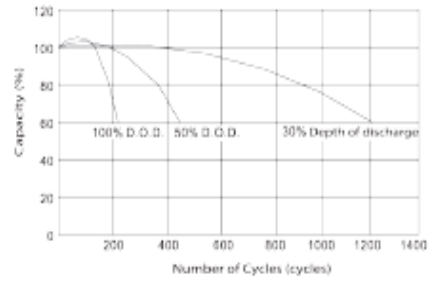
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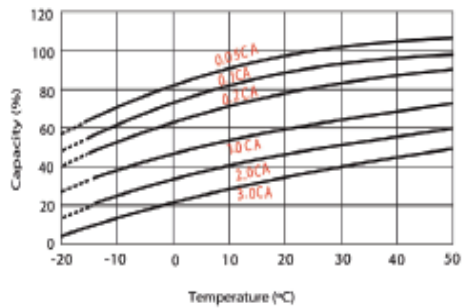
## Charging Characteristics (float use)



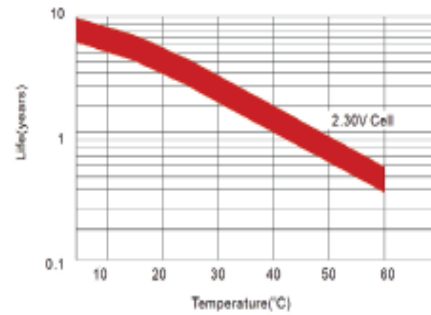
## Cycle Life in Relation to Depth of Discharge



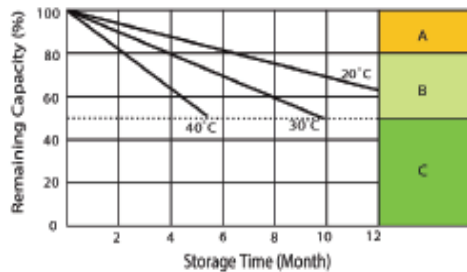
## Temperature Effects in Relation to Battery Capacity



## Effect of Temperature on Long Term Float Life



## Self Discharge Characteristics



- A** No supplementary charge required (carry out supplementary charge before use if 100% capacity is required)
- B** Supplementary charge required before use. Optimal charging ways below:
  1. Charged for above 3 days at limited current 0.25 CA and constant voltage 2.25V / cell.
  2. Charged for above 20 hours limited current 0.25CA and constant voltage 2.45V / cell.
  3. Charged for 0-10 hours at limited current 1.05 CA.
- C** Supplementary charge often full to recover the capacity. The battery should never be left standing till this is reached.

IMPORTANT NOTE: The specifications presented herein are subject to revision without notice.