

# KBL12550 12V 55Ah



The KAISE LONG LIFE Series 10 years has been designed for different applications, such as UPS, electric and telecommunications applications that require a long useful life.



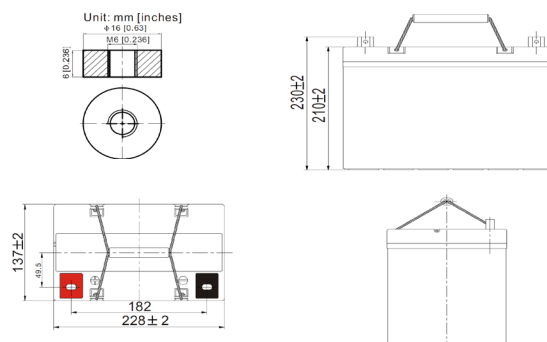
## Performance Characteristics

|                                  |                                                                                                                                                                                                     |                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|
| Nominal Voltage                  | 12V                                                                                                                                                                                                 |                                   |
| Dimensions                       | Length (mm / inch)                                                                                                                                                                                  | 228 / 8.98                        |
|                                  | Width (mm / inch)                                                                                                                                                                                   | 137 / 5.39                        |
|                                  | Height (mm / inch)                                                                                                                                                                                  | 210 / 8.27                        |
|                                  | Total Height (mm / inch)                                                                                                                                                                            | 230 / 9.06                        |
| Approx. Weight                   | (Kg / lbs)                                                                                                                                                                                          | 17.7 / 39.0                       |
| Design Life                      | 10 years                                                                                                                                                                                            |                                   |
| Terminal                         | M6                                                                                                                                                                                                  |                                   |
| Container Material               | ABS                                                                                                                                                                                                 |                                   |
| Rated Capacity                   | 58.8Ah / 2.94A                                                                                                                                                                                      | (10hr, 1.80V / cell, 25°C / 77°F) |
|                                  | 55.0Ah / 5.50A                                                                                                                                                                                      | (10hr, 1.80V / cell, 25°C / 77°F) |
|                                  | 47.9Ah / 9.57A                                                                                                                                                                                      | (5hr, 1.75V / cell, 25°C / 77°F)  |
|                                  | 34.1Ah / 34.1A                                                                                                                                                                                      | (1hr, 1.60V / cell, 25°C / 77°F)  |
| Max. Discharge Current           | 660A (5s)                                                                                                                                                                                           |                                   |
| Internal Resistance              | Approx 7.5mΩ                                                                                                                                                                                        |                                   |
| Operating Temp.Range             | Discharge : -15 ~ 50°C (5 ~ 122°F)                                                                                                                                                                  |                                   |
|                                  | Charge : 0 ~ 40°C (32 ~ 104°F)                                                                                                                                                                      |                                   |
|                                  | Storage : -15 ~ 40°C (5 ~ 104°F)                                                                                                                                                                    |                                   |
| Nominal Operating Temp. Range    | 25 ± 3°C (77 ± 5°F)                                                                                                                                                                                 |                                   |
| Cycle Use                        | Initial Charging Current less than 16.5A.                                                                                                                                                           |                                   |
|                                  | Voltage: 14.4VPC ~ 15.0VPC at 25°C (77°F)                                                                                                                                                           |                                   |
|                                  | Temp. Coefficient: -30mV/°C                                                                                                                                                                         |                                   |
| Standby Use                      | No limit on Initial Charging Current Voltage                                                                                                                                                        |                                   |
|                                  | 13.5VPC ~ 13.8VPC at 25°C (77°F)                                                                                                                                                                    |                                   |
|                                  | Temp. Coefficient: -20mV/°C                                                                                                                                                                         |                                   |
| Capacity affected by Temperature | 40°C (104°F)                                                                                                                                                                                        | 103%                              |
|                                  | 25°C ( 77°F)                                                                                                                                                                                        | 100%                              |
|                                  | 0°C ( 32°F)                                                                                                                                                                                         | 86%                               |
| Self Discharge                   | Fully charged Kaise Long Life 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. |                                   |

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

| Volts/cell | 10min | 15min | 30min | 1h   | 3h   | 5h   | 10h  | 20h  |
|------------|-------|-------|-------|------|------|------|------|------|
| 1.80V      | 73.6  | 60.8  | 43.3  | 27.8 | 13.8 | 9.35 | 5.50 | 2.94 |
| 1.75V      | 83.6  | 68.5  | 47.0  | 30.3 | 14.3 | 9.57 | 5.65 | 3.02 |
| 1.70V      | 94.5  | 76.0  | 51.3  | 32.0 | 15.1 | 10.1 | 5.86 | 3.09 |
| 1.65V      | 101.4 | 81.4  | 54.1  | 33.1 | 15.7 | 10.4 | 6.03 | 3.19 |
| 1.60V      | 111.6 | 89.1  | 57.8  | 34.1 | 16.1 | 10.7 | 6.16 | 3.24 |

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



## Applications

UPS  
 Telecommunications equipment  
 Solar energy systems  
 Cable TV  
 Power station  
 Marine equipment  
 Military equipment  
 Emergency power systems  
 Railway systems

## Certifications

ISO 9001:2008 ISO 14001:2008



## Discharge Current vs. Discharge Voltage

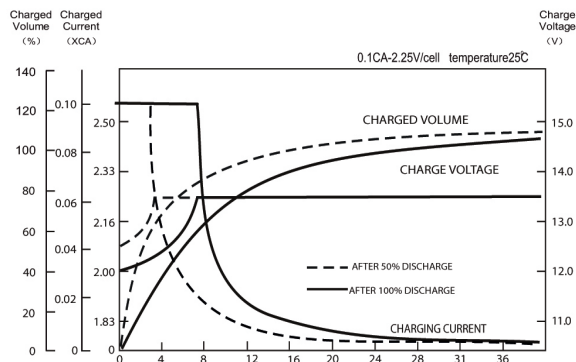
| Final discharge voltage V/CELL | 1.8            | 1.75                    | 1.7                      | 1.6          |
|--------------------------------|----------------|-------------------------|--------------------------|--------------|
| Discharge current (A)          | $I \leq 0.1CA$ | $0.25CA \geq I > 0.1CA$ | $0.55CA \geq I > 0.25CA$ | $I > 0.55CA$ |

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

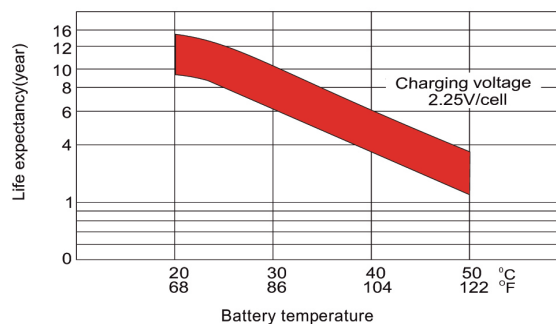
| Volts/cell | 10min | 15min | 30min | 1h   | 3h   | 5h   | 10h  | 20h  |
|------------|-------|-------|-------|------|------|------|------|------|
| 1.80V      | 135.9 | 113.1 | 82.0  | 53.8 | 26.9 | 18.4 | 11.0 | 5.88 |
| 1.75V      | 151.9 | 125.9 | 88.4  | 58.4 | 27.9 | 18.8 | 11.3 | 6.02 |
| 1.70V      | 167.7 | 137.8 | 96.0  | 61.6 | 29.3 | 19.9 | 11.7 | 6.17 |
| 1.65V      | 178.5 | 146.4 | 100.5 | 63.2 | 30.4 | 20.4 | 12.0 | 6.35 |
| 1.60V      | 191.9 | 157.7 | 106.5 | 64.8 | 31.0 | 20.8 | 12.2 | 6.45 |

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

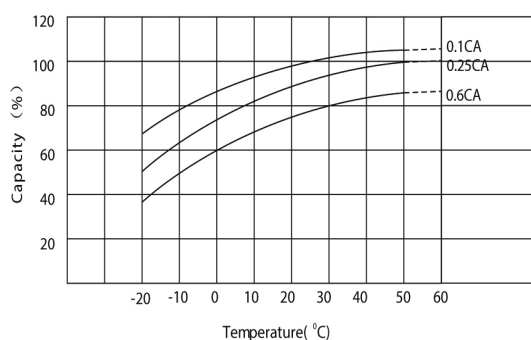
## Charging Characteristics (float use)



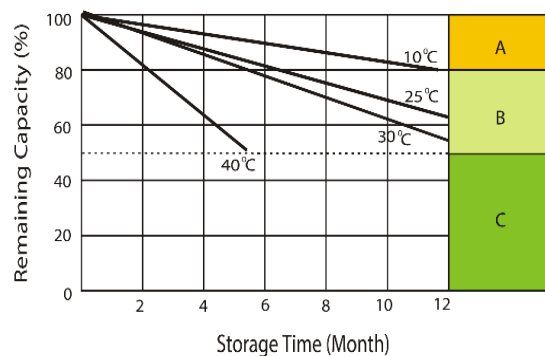
## Effect of Temperature on Long Term Float Life



## Temperature Effects in Relation to Battery Capacity



## Self Discharge Characteristics



**A** With switch regulator (two-step controller) charge on curve max. charge voltage for max. 2 hrs/day then switch over to continuous charge.

**B** Standard charge without switching.

**C** Boost charge (Equalizing charge with external generator) charge on curve continuous charge for max. 5 hrs/month, then switch over to curve Standard charge.

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

