# LD10018BUR Series – 1.0 inch Alpha-numeric LED Display

**ATTENTION**
OBSERVE PRECAUTIONS
FOR HANDLING
ELECTROSTATIC
DISCHARGE
SENSITIVE
DEVICES

RoHS

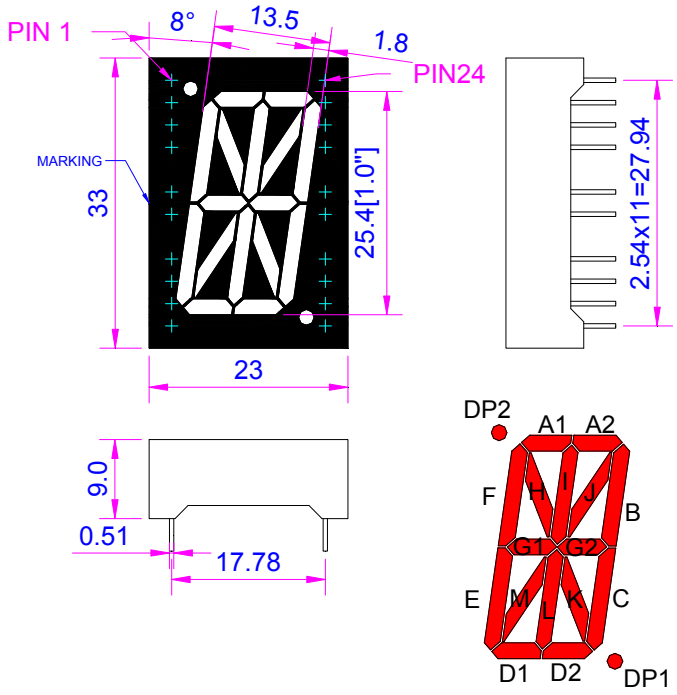
## Features

- 25.4mm (1.0 inch) digit high
- Excellent digit appearance
- Wide viewing angle
- Range of emitted colors
- I.C. compatible
- Low power consumption
- White segment, black face
- RoHS compliant

## Available options

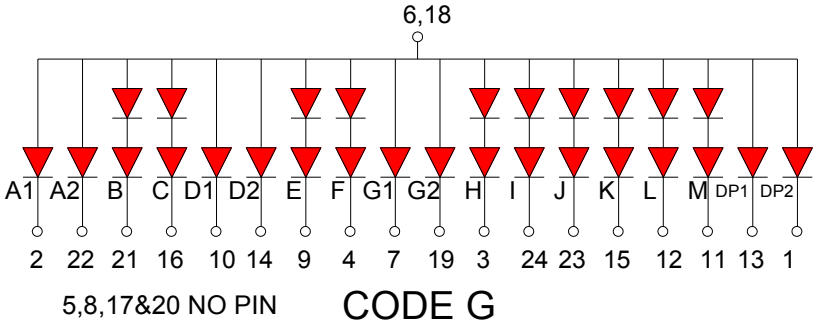
- Alternative emitting luminosity:
  Standard or high brightness version
- Alternative emitted color
- Alternative face and segment color
- Alternative font
- Both CA and CC versions are available
- Cropped terminal pins

## ·Package Dimensions




Notes:
1.All dimensions are in millimeter;Tolerance is ±0.25mm especially other specified;
2.Pin length, housing color, marking no & circuit diagram can be customized;
3.Specifications are subject to change without notice.

## ·Internal Circuit Diagram




| CHARACTERS |
|---|
| Chip Material: AlGaInP Ultra Bright Red LED Chip |

## ·ABSOLUTE MAXIMUM RATINGS (Ta = 25℃)

| PARAMETER | SYMBOL | MAXIMUM RATING | UNIT |
|---|---|---|---|
| Power Dissipation | $P_D$ | 78 | mW |
| Peak Forward Current (1/10 Duty Cycle, 0.1 ms Pulse Width) | $I_{PEAK}$ | 90 | mA |
| DC Forward Current | $I_F$ | 30 | mA |
| Reverse Voltage | $V_R$ | 5 | V |
| Electrostatic discharge | ESD | 1000 | V |
| Operating Temperature Range | Topr / Tstg | -40°C to +85°C | |
| Storage Temperature Range | Topr / Tstg | -40°C to +100°C | |

## ·ELECTRICAL OPTICAL CHARACTER AND CURVES (Ta = 25℃)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITION (Per Chip) |
|---|---|---|---|---|---|---|
| Forward Voltage | $V_F$ | - | 2.0 | 2.6 | V | $I_F$ =20mA |
| Luminous Intensity | $I_V$ | 30 | 45 | - | mcd | $I_F$ =20mA |
| Peak Emission Wavelength | λp | - | 640 | - | nm | $I_F$ =20mA |
| Dominant Emission Wavelength | λd | - | 630 | - | nm | $I_F$ =20mA |
| Spectral Line Half-Width | Δλ | - | 20 | - | nm | $I_F$ =20mA |
| Reverse Current | $I_R$ | - | - | 10 | uA | $V_R$ = 5V |

Note:
1.Luminous intensity tolerance is ±10%;
2.Dominant Emission Wavelength tolerance is ±1nm.

## ·Typical Electro-Optical Characteristic Curve

FIG. 1 Forward Current Vs. Forward Voltage

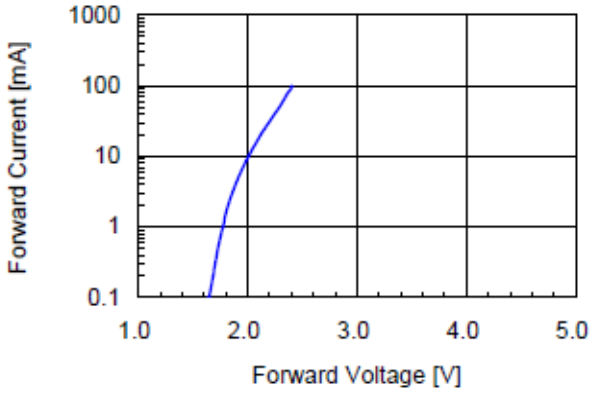



FIG. 2 Relative Intensity Vs. Forward Current

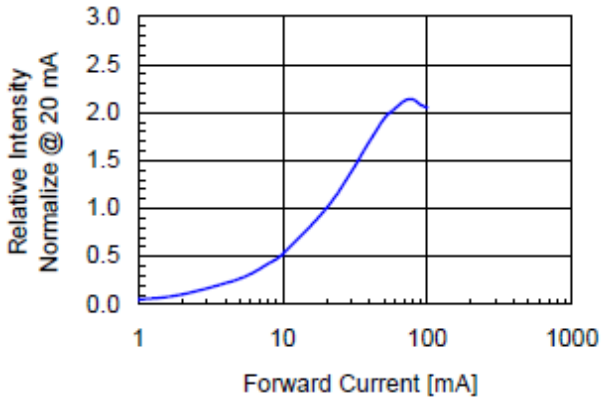



FIG. 3 Forward Voltage Vs. Temperature

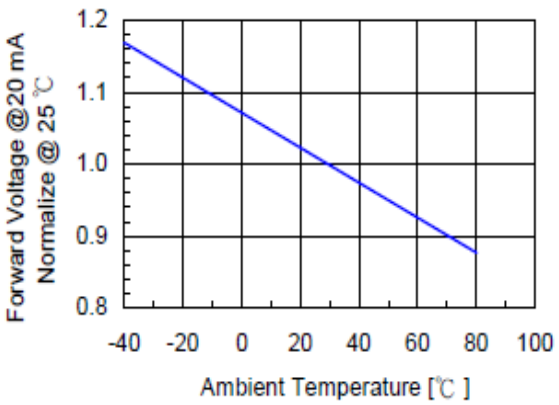



FIG. 4 Relative Intensity Vs. Temperature

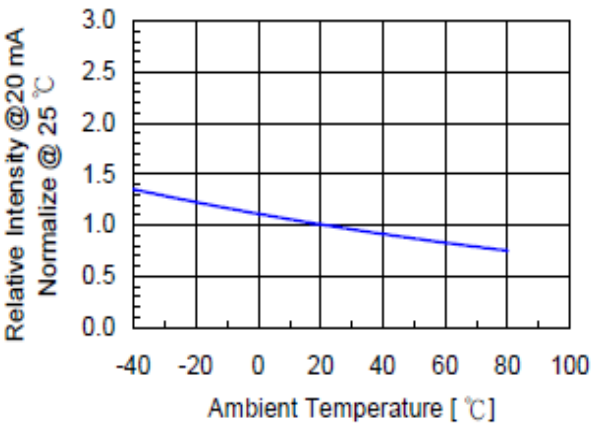
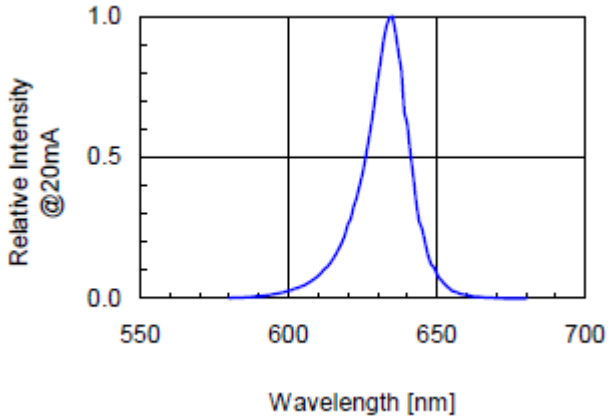
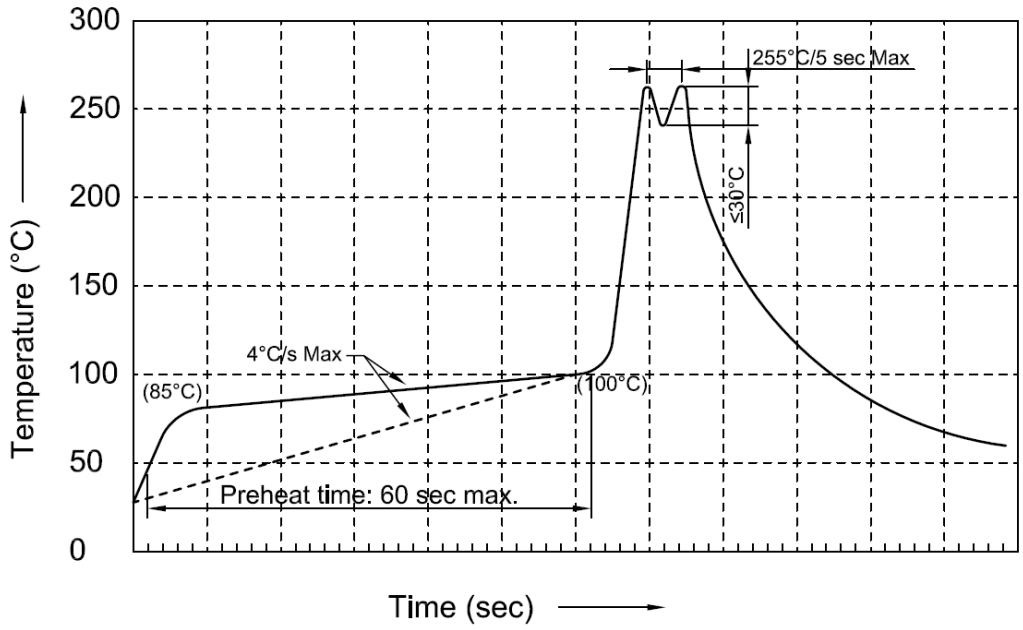


FIG. 5 Relative Intensity Vs. Wavelength




## ·Recommended Wave Soldering Profiles




Notes:

1.Recommend pre-heat temperature of 105℃ or less (as measured with a thermocouple attached to the LED pins) prior to immersion in the solder wave with a maximum solder bath temperature of 260℃.

2.Peak wave soldering temperature between 245-255℃ for 3 sec (5 sec max).

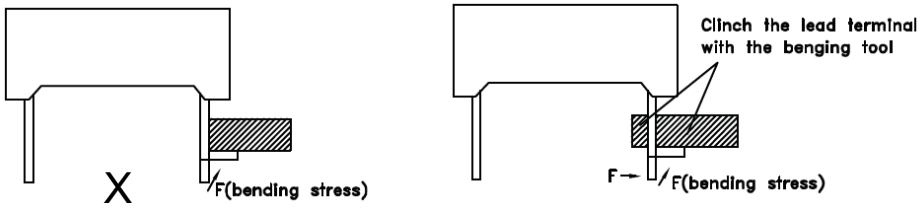
3.Do not apply stress to the epoxy resin while the temperature is above 85℃.

4.Fixtures should not apply stress on the component when mounting and soldering process.

5.More than one wave soldering is not allowed.

## ·Lead Forming

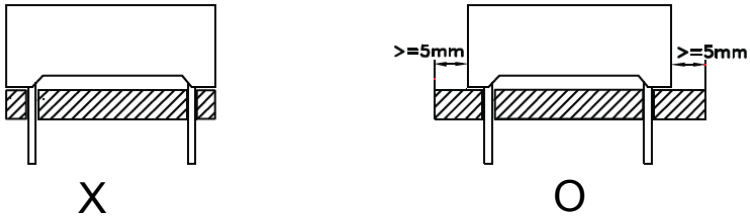
Bend the component leads by hand without proper tools is not allowed. The leads should be bent by clinching the upper part of the lead firmly such that the bending force is not exerted on the plastic body.




## ·Installation

1. Do not apply stress to the lead terminals.
2. When inserting for assembly, ensure the terminal pitch matches the substrate board's hole pitch to prevent spreading or pinching the lead terminals.


The component shall be placed at least 5mm from edge of PCB to avoid damage caused excessive heat during wave soldering.




## ·Storage

1. The LEDs should be stored at temp.≤ 30℃ &RH. ≤70% after being shipped from LITEKEY and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and absorbent material.
2. Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

## ·Soldering General Notes

1. Through-hole displays are incompatible with reflow soldering.
2. If components will undergo multiple soldering processes where the components may be subjected to intense heat, please check with LITEKEY for compatibility.

## ·Cleaning

1. Mild "no-clean" fluxes are recommended for use in soldering.
2. If cleaning is required, LITEKEY recommends to wash components enclosure with water only. Do not use organic solvents for cleaning, because they may damage the plastic parts. And the devices should not be washed for more than one minute.

## ·Electrostatic Discharge(ESD)

1. LEDs can be damaged by electrostatic discharge or surge current (EOS).
2. An ESD wrist strap, ESD shoe strap or antistatic gloves must be worn whenever handling LEDs.
3. Grounded properly must be applied for all devices, equipment and machinery.
4. Use ion blower to neutralize the static charge which might have built up on surface of the LEDs plastic lens as a result of friction between LEDs during storage and handling.

## ·Other

1. Above specification may be changed without notice. LITEKEY will reserve authority on material change for above specification.
2. When using this product, please observe the absolute maximum ratings and the instructions for using outlined in these specification sheets. LITEKEY assumes no responsibility for any damage resulting from use of the product which does not comply with the absolute maximum ratings and the instructions included in these specification sheets.
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