

# Kingbright®

## T- 1 3/4 (5mm) SUPER BRIGHT LED LAMPS

L-53SE SUPER BRIGHT ORANGE

L-53SY SUPER BRIGHT YELLOW

### Features

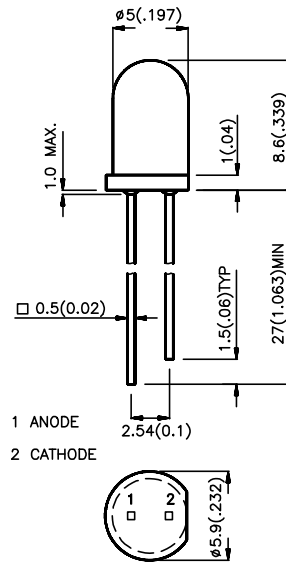
- ULTRA BRIGHTNESS.
- DIFFUSED, WATER CLEAR AND TRANSPARENT LENS ARE AVAILABLE.
- OUTSTANDING MATERIAL EFFICIENCY.
- RELIABLE AND RUGGED.
- IC COMPATIBLE/LOW CURRENT CAPABILITY.

### Description

The Super Bright Orange source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

The Super Bright Yellow source color devices are made with DH InGaAlP on GaAs substrate Light Emitting Diode.

### Package Dimensions



1 ANODE  
2 CATHODE

- Notes:
1. All dimensions are in millimeters (inches).
  2. Tolerance is  $\pm 0.25(0.01)$  unless otherwise noted.
  3. Lead spacing is measured where the lead emerge package.
  4. Specifications are subjected to change without notice.

### Selection Guide

| Part No. | Dice                          | Lens Type       | Iv (mcd)<br>@ 20 mA |      | Viewing<br>Angle |
|----------|-------------------------------|-----------------|---------------------|------|------------------|
|          |                               |                 | Min.                | Max. |                  |
| L-53SEC  | SUPER BRIGHT ORANGE (InGaAlP) | WATER CLEAR     | 700                 | 3000 | 30°              |
| L-53SET  |                               | ORANGE TRANS.   | 700                 | 3000 | 30°              |
| L-53SED  |                               | ORANGE DIFFUSED | 400                 | 1000 | 60°              |
| L-53SYC  | SUPER BRIGHT YELLOW (InGaAlP) | WATER CLEAR     | 400                 | 2500 | 30°              |
| L-53SYT  |                               | YELLOW TRANS.   | 400                 | 2500 | 30°              |
| L-53SYD  |                               | YELLOW DIFFUSED | 100                 | 500  | 60°              |

Note:  
1.  $\theta_{1/2}$  is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

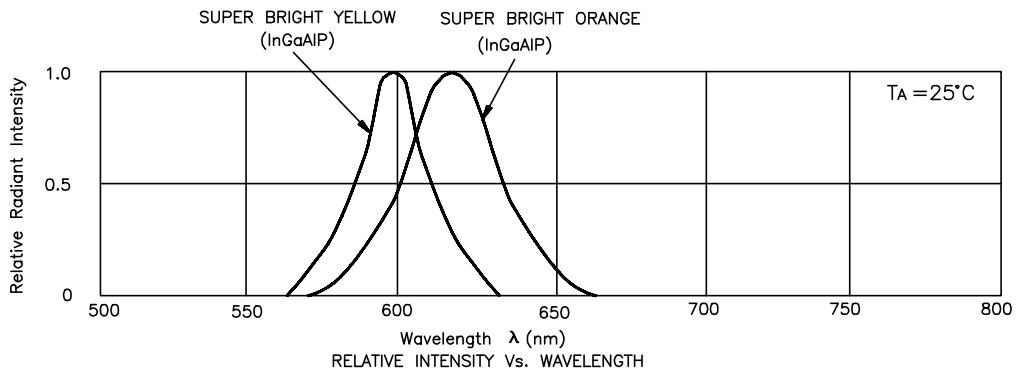
### Electrical / Optical Characteristics at T<sub>A</sub>=25°C

| Symbol                  | Parameter               | Device                                     | Typ.        | Max.       | Units | Test Conditions |
|-------------------------|-------------------------|--|-------------|------------|-------|-----------------|
| $\lambda_{\text{peak}}$ | Peak Wavelength         | Super Bright Orange<br>Super Bright Yellow | 620<br>595  |            | nm    | IF=20mA         |
| $\Delta\lambda_{1/2}$   | Spectral Line Halfwidth | Super Bright Orange<br>Super Bright Yellow | 15<br>20    |            | nm    | IF=20mA         |
| C                       | Capacitance             | Super Bright Orange<br>Super Bright Yellow | 40<br>33    |            | pF    | VF=0V;f=1MHz    |
| V <sub>F</sub>          | Forward Voltage         | Super Bright Orange<br>Super Bright Yellow | 1.95<br>2.0 | 2.5<br>2.4 | V     | IF=20mA         |
| I <sub>R</sub>          | Reverse Current         | All  | 10          |            | uA    | VR = 5V         |

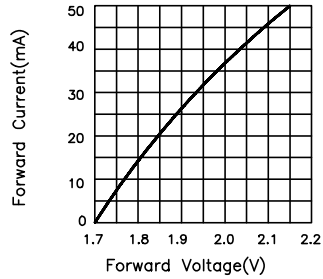
### Absolute Maximum Ratings at T<sub>A</sub>=25°C

| Parameter                     | Super Bright Orange | Super Bright Yellow | Units |
|-------------------------------|---------------------|---------------------|-------|
| Power dissipation             | 75                  | 125                 | mW    |
| DC Forward Current            | 30                  | 30                  | mA    |
| Peak Forward Current [1]      | 150                 | 150                 | mA    |
| Reverse Voltage               | 5                   | 5                   | V     |
| Operation/Storage Temperature | -40°C To +85°C      |                     |       |
| Lead Solder Temperature [2]   | 260°C For 5 Seconds |                     |       |

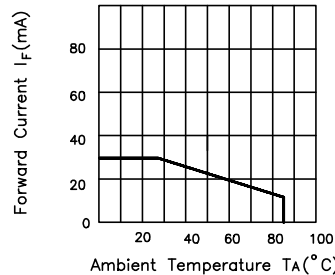
Notes:  
 1. 1/10 Duty Cycle, 0.1ms Pulse Width.  
 2. 4mm below package base.



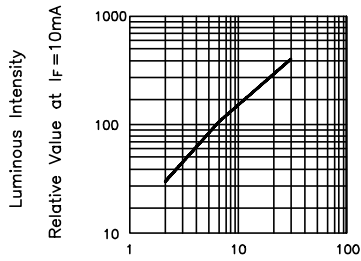
Super Bright Orange L-53SEC, L-53SET, L-53SED



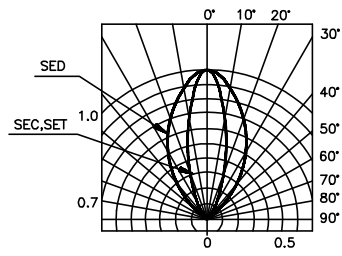
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE

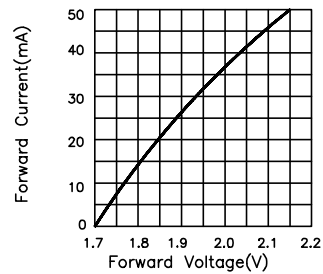


LUMINOUS INTENSITY Vs. FORWARD CURRENT

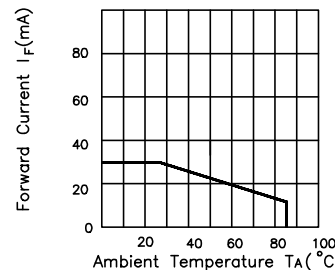


SPATIAL DISTRIBUTION

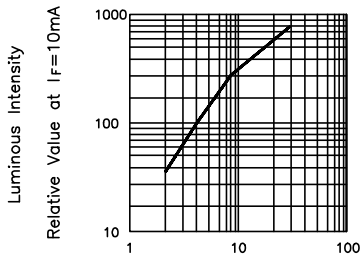
Super Bright Yellow L-53SYC, L-53SYT, L-53SYD



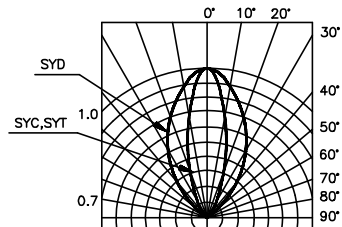
FORWARD CURRENT Vs. FORWARD VOLTAGE



FORWARD CURRENT DERATING CURVE



LUMINOUS INTENSITY Vs. FORWARD CURRENT



SPATIAL DISTRIBUTION