

|         |          |
|---------|----------|
| L53F3C  | L53F3BT  |
| L53SF4C | L53SF4BT |

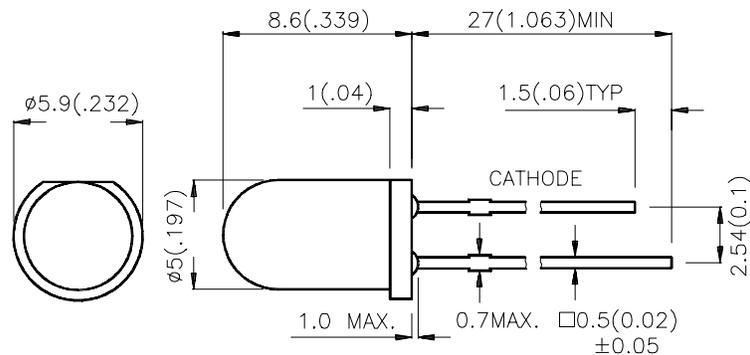
### Features

- MECHANICALLY AND SPECTRALLY MATCHED TO THE L51P3C PHOTOTRANSISTOR.
- BOTH WATER CLEAR LENS AND BLUE TRANSPARENT LENS AVAILABLE HIGH POWER OUTPUT.

### Description

F3 Made with Gallium Arsenide Infrared Emitting diodes.  
 SF4 Made with Gallium Aluminum Arsenide Infrared Emitting diodes.

### Package Dimensions



#### 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 subject to change without notice.

## Selection Guide

| Part No. | Dice   | Lens Type        | Po (mW/sr)<br>@20mA |      | Po (mW/sr)<br>@50mA |      | Viewing<br>Angle |
|----------|--------|------------------|---------------------|------|---------------------|------|------------------|
|          |        |                  | Min.                | Typ. | Min.                | Typ. | 2θ1/2            |
| L53F3C   | GaAs   | WATER CLEAR      | 8                   | 20   | 12                  | 30   | 30°              |
| L53F3BT  | GaAs   | BLUE TRANSPARENT | 5                   | 20   | 8                   | 30   | 30°              |
| L53SF4C  | GaAlAs | WATER CLEAR      | 8                   | 20   | 12                  | 30   | 30°              |
| L53SF4BT | GaAlAs | BLUE TRANSPARENT | 5                   | 20   | 8                   | 30   | 30°              |

Note:

1. θ1/2 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

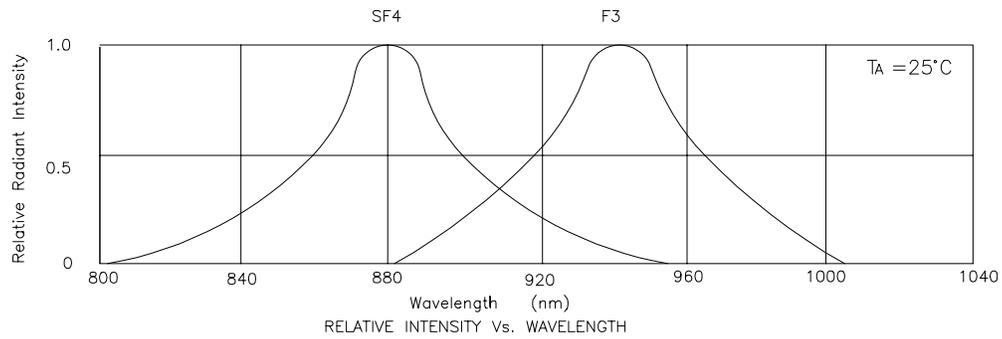
| Item                     | P/N       | Symbol         | Typ.       | Max.       | Unit | Condition  |
|--------------------------|-----------|----------------|------------|------------|------|------------|
| Forward Voltage          | F3<br>SF4 | V <sub>F</sub> | 1.2<br>1.3 | 1.5<br>1.7 | V    | IF=20mA    |
| Reverse Current          | F3<br>SF4 | I <sub>R</sub> | -          | 10<br>10   | uA   | VR=5V      |
| Junction Capacitance     | F3<br>SF4 | C              | 90<br>90   | -          | pF   | V=0 f=1MHz |
| Peak Spectral Wavelength | F3<br>SF4 | λ <sub>P</sub> | 940<br>880 | -          | nm   | IF=20mA    |
| Spectral Bandwidth       | F3<br>SF4 | Δλ             | 50<br>50   | -          | nm   | IF=20mA    |

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

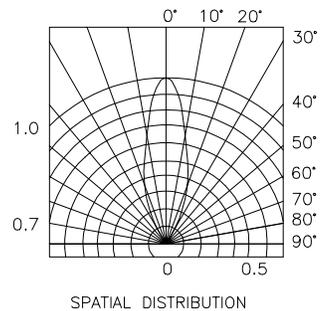
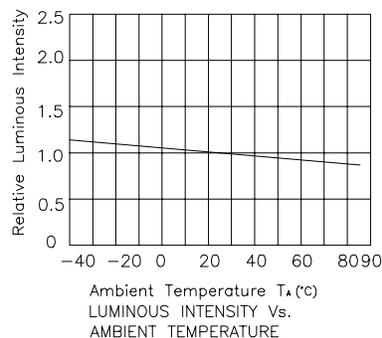
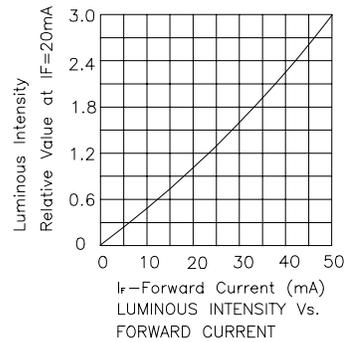
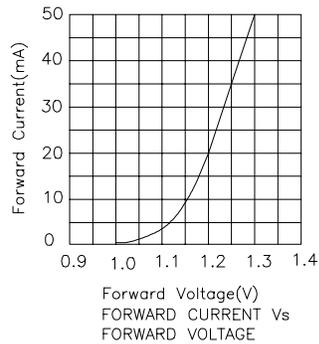
| Item                  | Symbol           | F3&SF4   | Units |
|-----------------------|------------------|----------|-------|
| Power Dissipation     | PT               | 100      | mW    |
| Forward Current       | I <sub>F</sub>   | 50       | mA    |
| Peak Forward Current  | I <sub>p</sub>   | 1.2      | A     |
| Reverse Voltage       | V <sub>R</sub>   | 5        | V     |
| Operating Temperature | T <sub>A</sub>   | -40~ +85 | °C    |
| Storage Temperature   | T <sub>stg</sub> | -40~ +85 | °C    |

Notes:

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



## L53F3C, L53F3BT



## L53SF4C, L53SF4BT

