SYNACORP TRADING & SERVICES
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IR Transmitter

The device is spectrally matched with silicon photodiode and phototransistor. The LEDs are available with different viewing angles.

Module features:

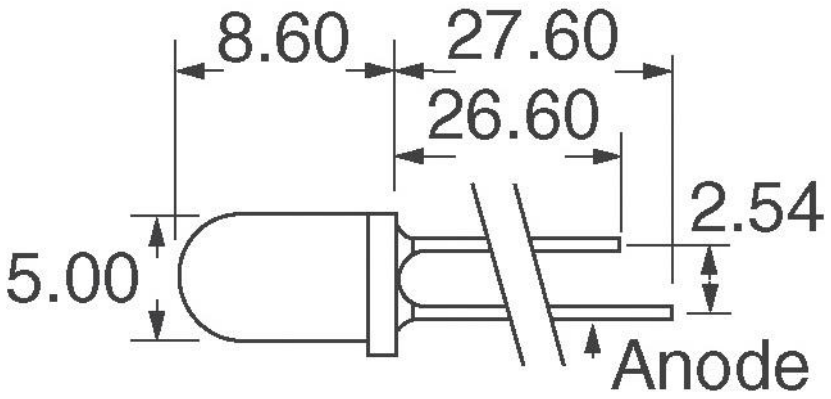
- Low forward voltage.
- Infrared emitting diode.
- Viewing angle = 20°
- Reliable and rugged.
- Remain within RoHS compliant version.

Technical Specifications

Wavelength: 940 nm
Forward Current: 50 mA
Forward Voltage: 1−1.7 V
Radiant Intensity: min 20 mw/sr
Max. Forward Current: 100 mA
Max. Forward Voltage: 1.7 V
Max. Reverse Voltage: 5 V
Working Environment: - 25 to + 75°C
Storage Temperature: - 25 to + 85°C

Dimensions, Configuration and Pin-out

Product dimension (unit:mm):



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Typical Electrical/Optical Characteristics

Fig.1 Forward Current vs. Ambient Temperature

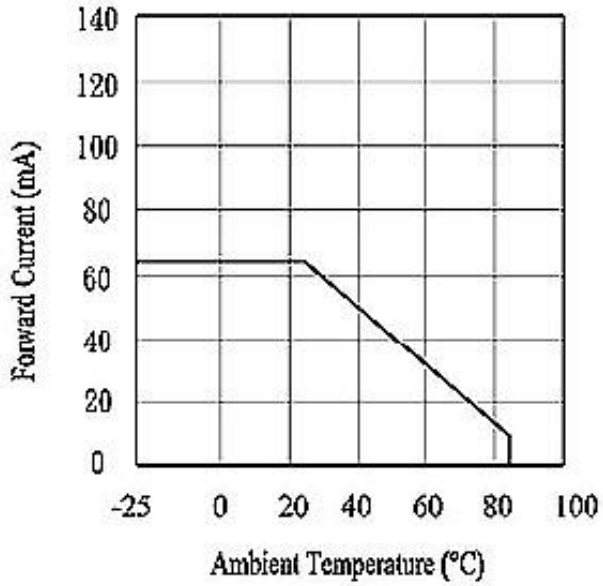


Fig.2 Spectral Distribution

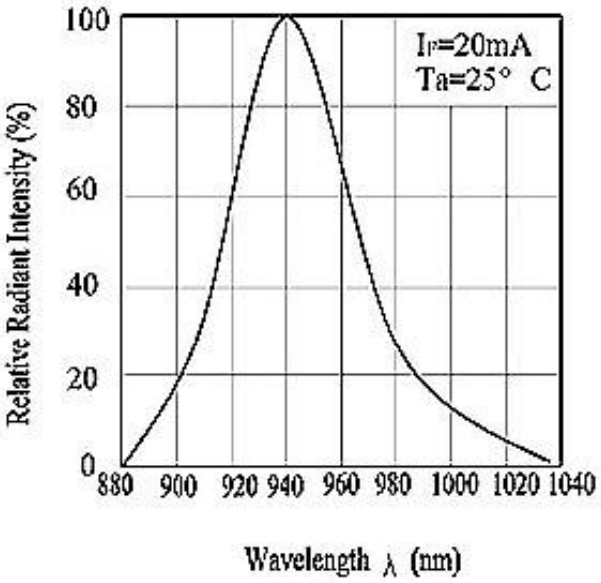


Fig.3 Peak Emission Wavelength Ambient Temperature

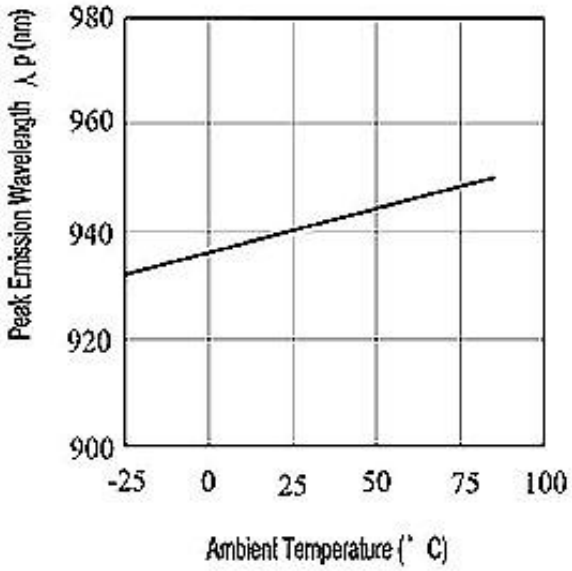


Fig.4 Forward Current vs. Forward Voltage

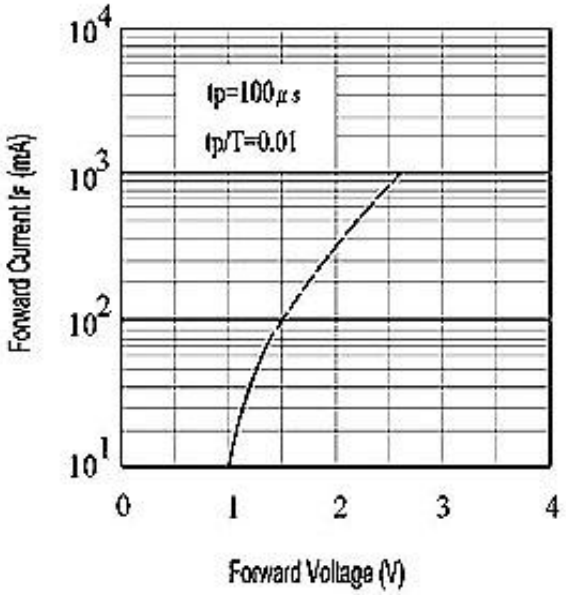


Fig.5 Relative Intensity vs. Forward Current

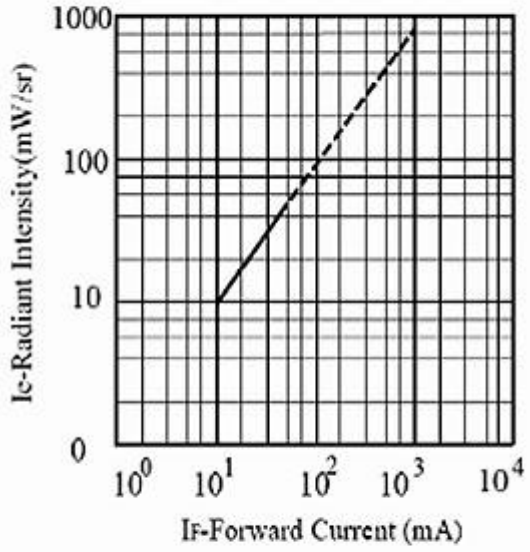


Fig.6 Relative Radiant Intensity vs. Angular Displacement

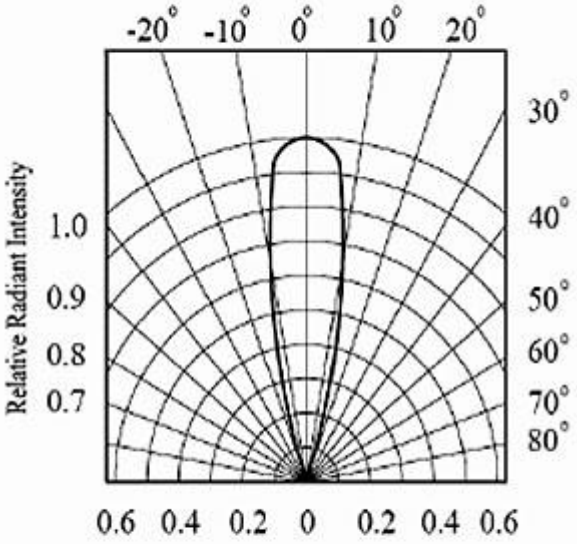


Fig.7 Relative Intensity vs. Ambient Temperature(°C)

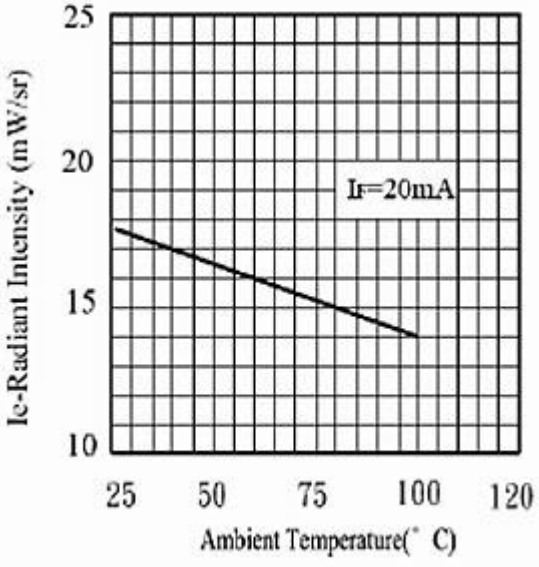
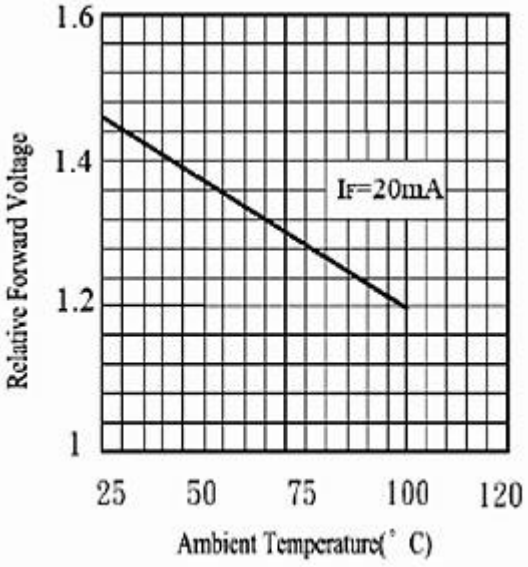


Fig.8 Forward Voltage vs. Ambient Temperature(°C)



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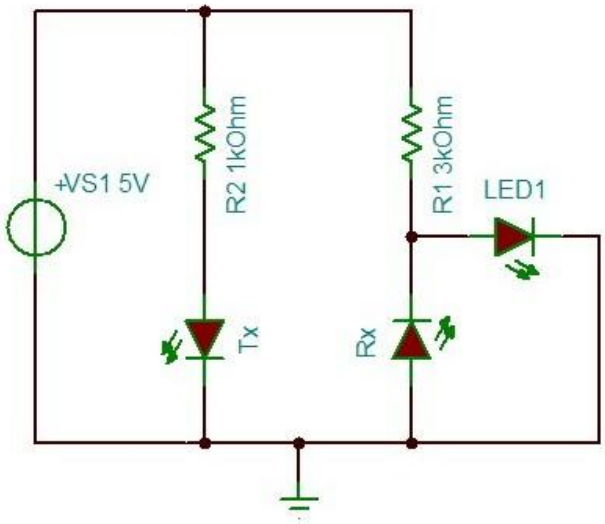
Testing your IR Sensor

This is a very simple and easy to make IR sensor circuit. The LED1 indicate output from the circuit. The working of this circuit is simple whenever the there is interference between IR Transmitter (Tx) and IR Receiver (Rx) beam, the LED1 will light on. The blinking of LED indicates that the signal has not been received.



Applications

1. Optical switch
2. Mobile robot
3. TV/VCD remote control
4. Home appliances
5. Optical Encoders
6. Smoke sensors

IMPORTANT NOTES

1. Must apply resistors for protection, otherwise slight voltage shift will cause big current change (Burn out will happen).
2. Do not open moisture proof bag before the products are ready to use.
3. Before opening the package, the LEDs should be kept at 30℃ or less and 90%RH or less. The LEDs should be used within a year.
4. After opening the package, the LEDs should be kept at 30℃ or less and 70%RH or less.
5. The LEDs should be used within 168 hours (7 days) after opening the package.
6. Each terminal is to go to the tip of soldering iron temperature less than 260℃ for 5 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.
7. Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.