SYNACORP TRADING & SERVICES
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IR Receiver

The IR Receiver is miniaturized infrared receivers for remote control and other applications requiring improved ambient light rejection. The separate PIN diode and preamplifier IC are assembled on a single lead frame. The epoxy package contains a special IR filter.

This module has excellent performance even in disturbed ambient light applications and provides protection against uncontrolled output pulses.

Module features:

- Photo detector and preamplifier in one package.
- Internal filter for PCM frequency.
- Inner shield, good anti-interference ability.
- High immunity against ambient light.
- Improved shielding against electric field disturbance.
- 3.0V or 5.0V supply voltage; low power consumption.
- TTL and CMOS compatibility.
- 8ms data pause time codes are acceptable.
- Low current consumption.
- Versatile mounting on PCB panel.
- Long life-solid state reliability.

Technical Specifications

Reverse Breakdown Voltage: 35 V
Reverse Dark Current: 20 nA
Reverse Light Current: 27 μA
Forward Voltage: 0.5−1.3 V
Short-Circuit Current: 8 μA
Rise Time: 50 ns
Fall Time: 50 ns
Total Capacitance: 27 pF
Peak Sensing Wavelength: 940 nm
Power: 0.15 W
Receiving Angle: 40°
Voltage: 1.1-1.4 V
Receiving tube (limit parameters (Absolute Maximum Ratings): Ta = 25
Maximum Power: 70 mW
Maximum Forward Current: 30 mA
Maximum Reverse Voltage: 5 V
Maximum Pulse Current Peak: 75 mA
Working Environment: - 25 to + 70°C
Storage Temperature: - 25 to + 80°C

*The infrared receiver is black, so when the power supply to it you cannot see the light.

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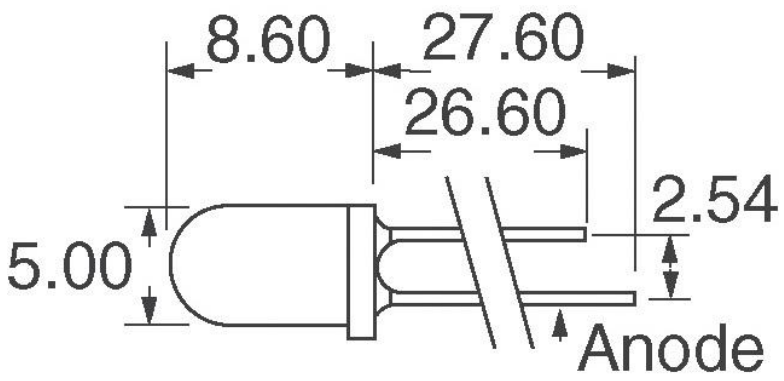
Dimensions, Configuration and Pin-out

Product dimension (unit:mm):



Typical Electrical/Optical Characteristics

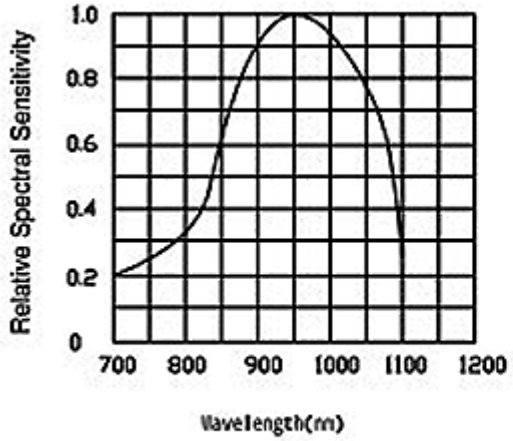


FIG.1 Relative Spectral Sensitivity vs. Wavelength

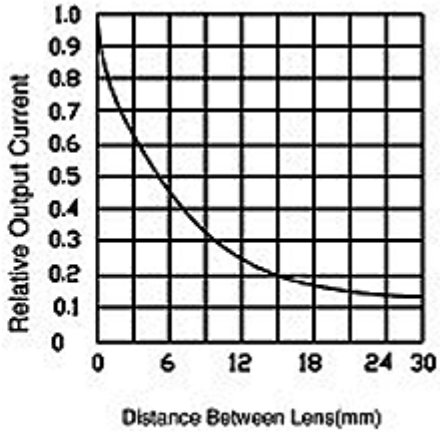


FIG.2 Coupling Characteristics

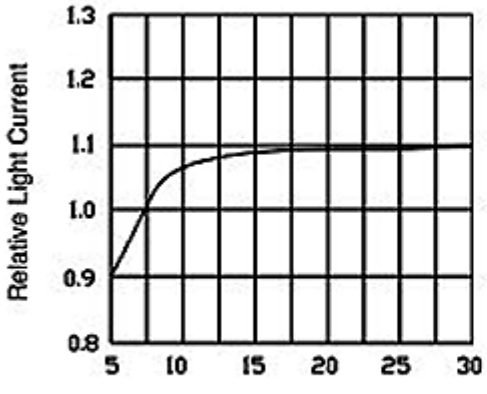


FIG.3 Vr vs Relative IL

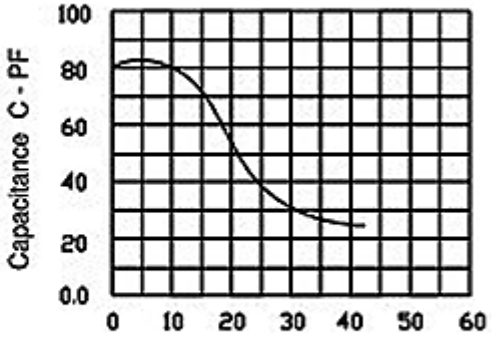


FIG.4 VR vs CT

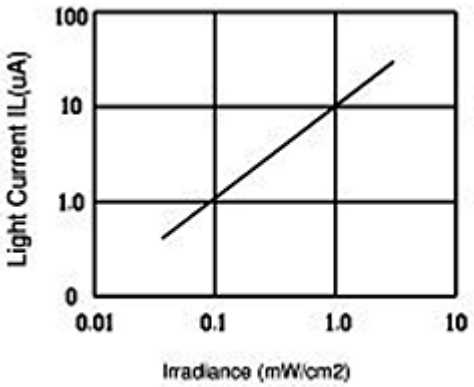


FIG.5 IL vs Iv

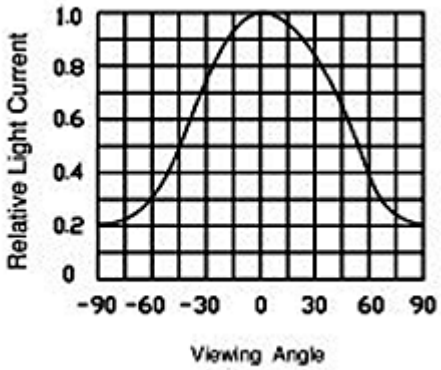
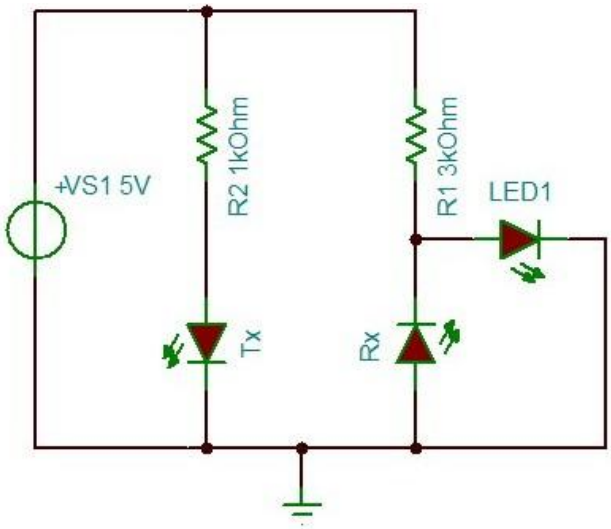


FIG.6 Angle VS Relative IL

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. Multimedia Equipment