

Infrared Light Emitting Diode

1. GENERAL DESCRIPTION

AT205B is high output power AlGaAs infrared light emitting diode, mounted in blue epoxy package. It emits spectrally narrow band of radiation peaking at 940nm. And the device is matched with phototransistor, photodiode and infrared receiver module.

2. FEATURES

- Wide beam angle.
- Good linearity.
- High output power.
- Capable of pulse operation.
- Low cost

3. ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

| PARAMETER | MAXIMUM RATING | UNIT |
|-----------------------------|-------------------|------|
| Power forward current | 150 | mW |
| Peak forward current | 1 | A |
| Continuous Forward Current | 100 | mA |
| Reverse voltage | 5 | V |
| Operating temperature range | -40 to +85 | °C |
| Storage temperature range | -55 to +100 | °C |
| Lead soldering temperature | 260 for 5 seconds | °C |

4. ELECTRICAL OPTICAL CHARACTERISTICS AT Ta=25°C

| PARAMETER | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITION |
|--------------------------|-------------------|------|------|------|------|--|
| Radiant Intensity | Ee | 7 | 10.2 | | | I _F =20mA |
| | | | 45 | | | I _F =100mA Pulse Width ≤ 100 μs, Duty ≤ 1% |
| Peak emission wavelength | λ _{peak} | | 940 | | nm | I _F =20mA |
| Spectral line half-width | Δλ | | 45 | | nm | I _F =20mA |
| Forward voltage | V _F | | 1.2 | 1.4 | V | I _F =20mA |
| | | | 1.4 | 1.5 | V | I _F =100mA Pulse Width ≤ 100 μs, Duty ≤ 1% |
| Reverse current | I _R | | | 10 | μA | V _R =5V |
| Viewing angle | 2θ _{1/2} | | 30 | | Deg | |

5. TYPICAL ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

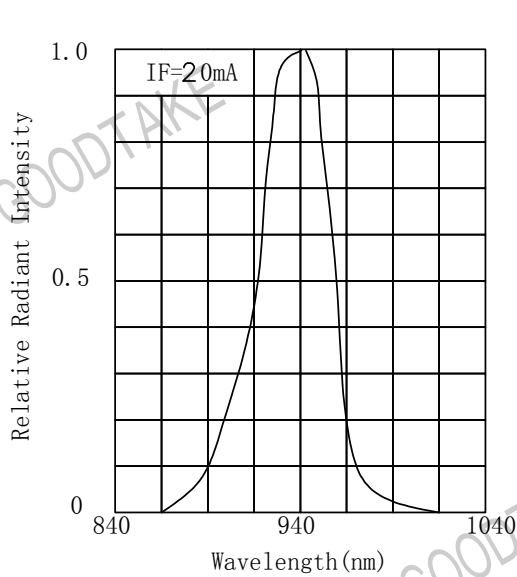


Fig.1 Spectral Distribution

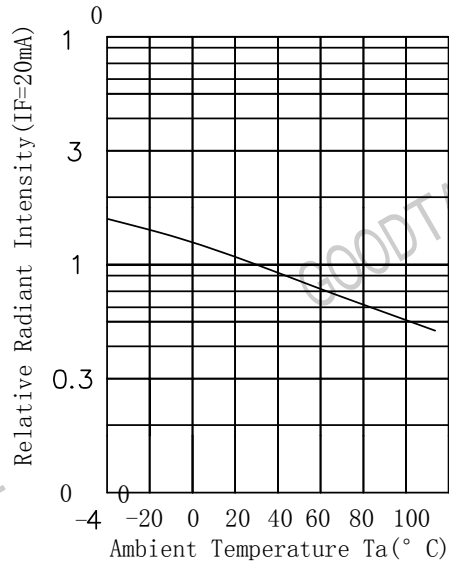


Fig.2 Relative Radiant Intensity Vs Ambient Temperature

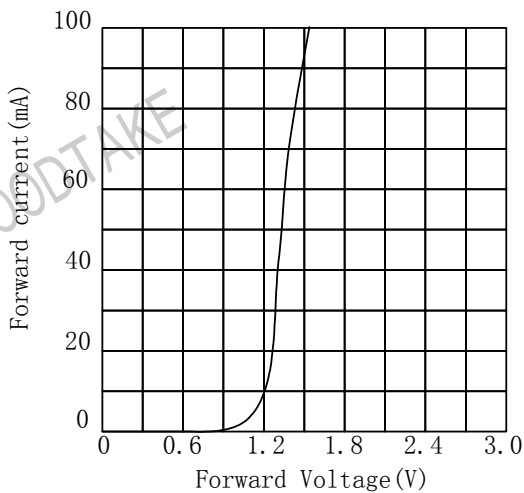


Fig.3 Forward Current Vs Forward Voltage

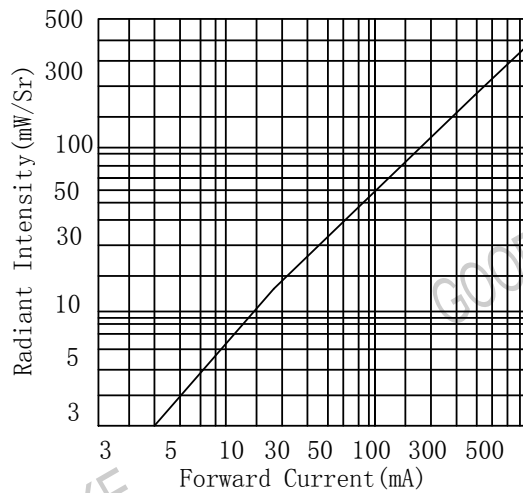


Fig.4 Forward Current Vs Radiant Intensity

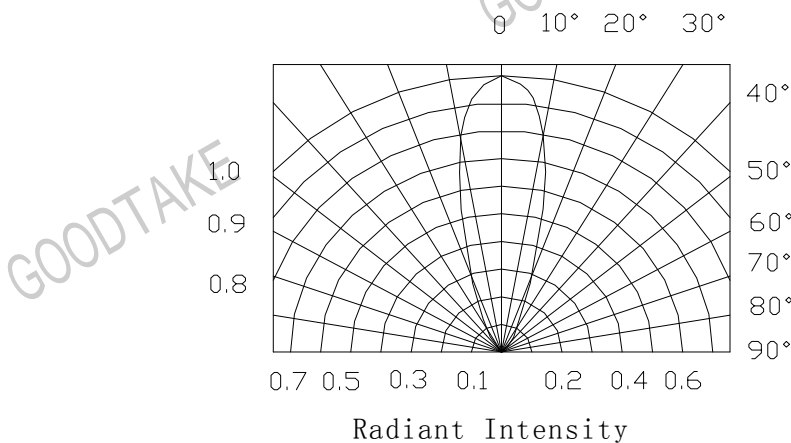
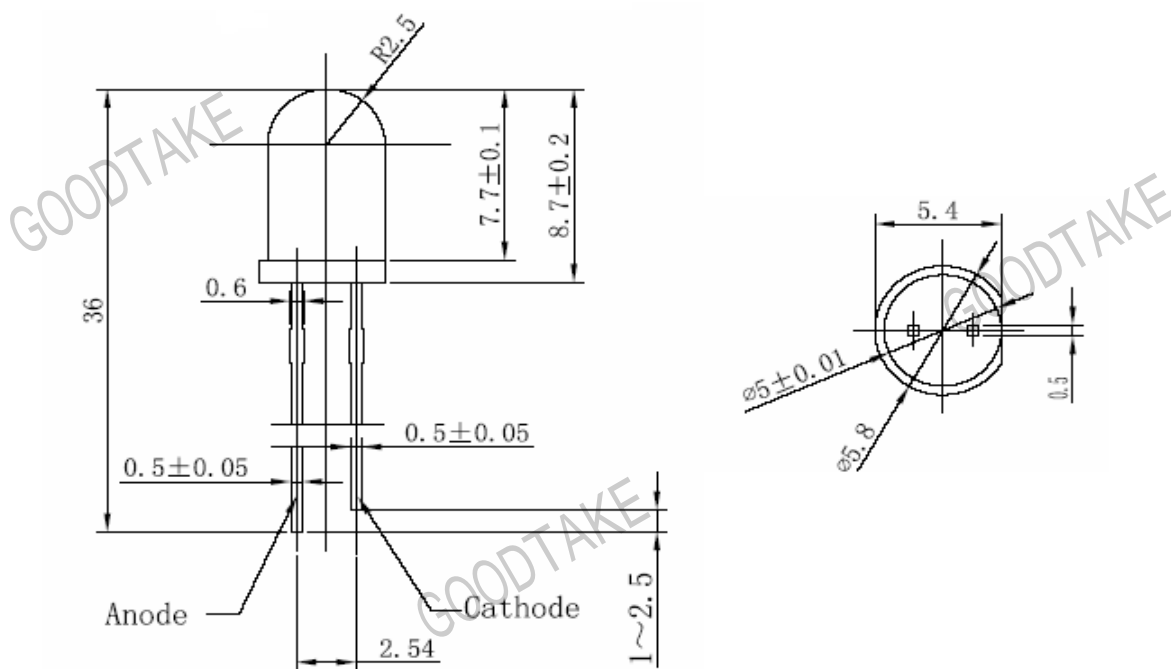


Fig.5 Angle Vs Radiant Intensity

6. DIMENSIONS IN MM



Notes

1. All dimensions are in millimeters.
2. Tolerance is ± 0.5 unless otherwise noted.
3. An epoxy meniscus may extend about "0.25mm" down the leads.