

# Infrared Light Emitting Diode

## 1. GENERAL DESCRIPTION

AT205-A-DTY is high output power AlGaAs infrared light emitting diode, mounted in clear epoxy package. It emits spectrally narrow band of radiation peaking at 940nm.

## 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	E <sub>e</sub>		18			I <sub>F</sub> =20mA
			85			I <sub>F</sub> =100mA Pulse Width ≤ 100 μs, Duty ≤ 1%
			850			I <sub>F</sub> =1A Pulse Width ≤ 100 μs, Duty ≤ 1%.
Peak emission wavelength	λ <sub>peak</sub>		940		nm	I <sub>F</sub> =20mA
Spectral line half-width	Δλ		45		nm	I <sub>F</sub> =20mA
Forward voltage	V <sub>F</sub>		1.2	1.4	V	I <sub>F</sub> =20mA
			1.4	1.8	V	I <sub>F</sub> =100mA Pulse Width ≤ 100 μs, Duty ≤ 1%
Reverse current	I <sub>R</sub>			10	μA	V <sub>R</sub> =5V
Viewing angle	2θ <sub>1/2</sub>		15		Deg	

**5. TYPICAL ELECTRICAL/OPTICAL CHARACTERISTICS CURVES**

(25°C Ambient Temperature Unless Otherwise Noted)

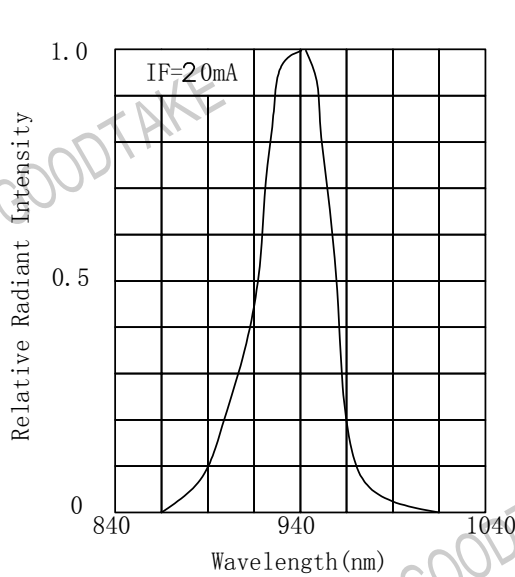


Fig.1 Spectral Distribution

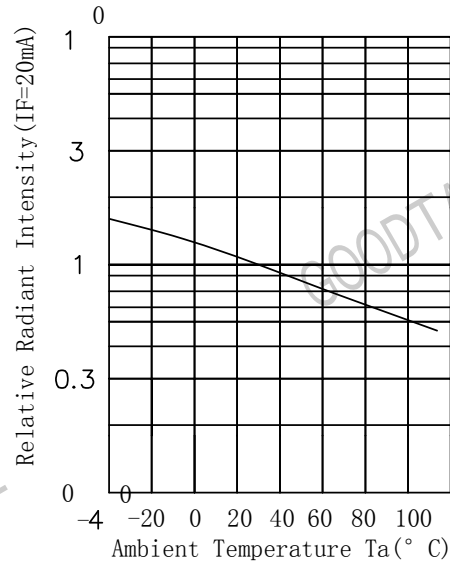


Fig.2 Relative Radiant Intensity Vs Ambient Temperature

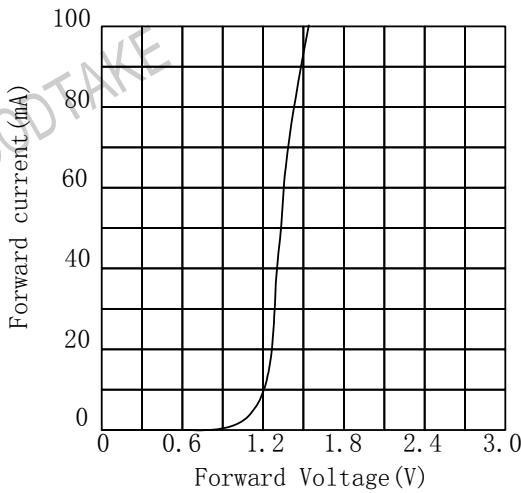


Fig.3 Forward Current Vs Forward Voltage

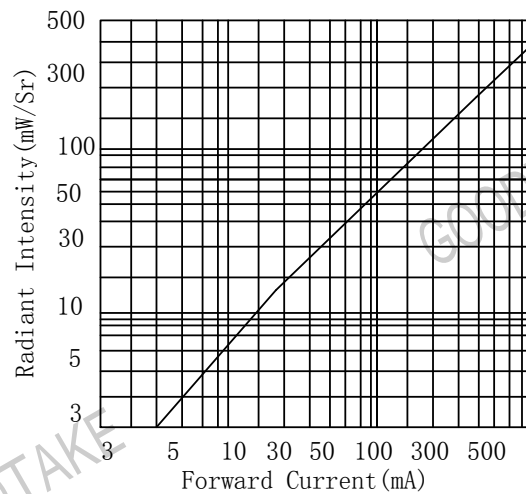


Fig.4 Forward Current Vs Radiant Intensity

0 10° 20° 30°

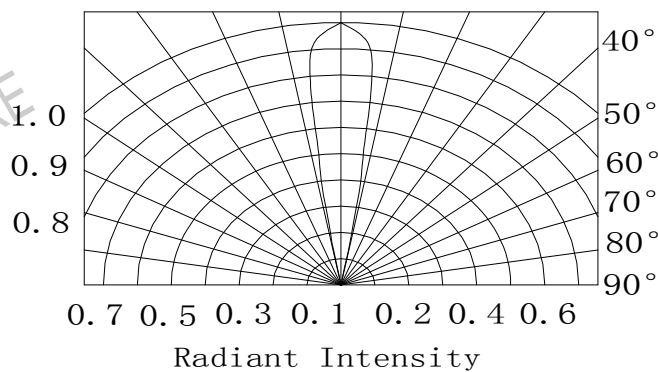
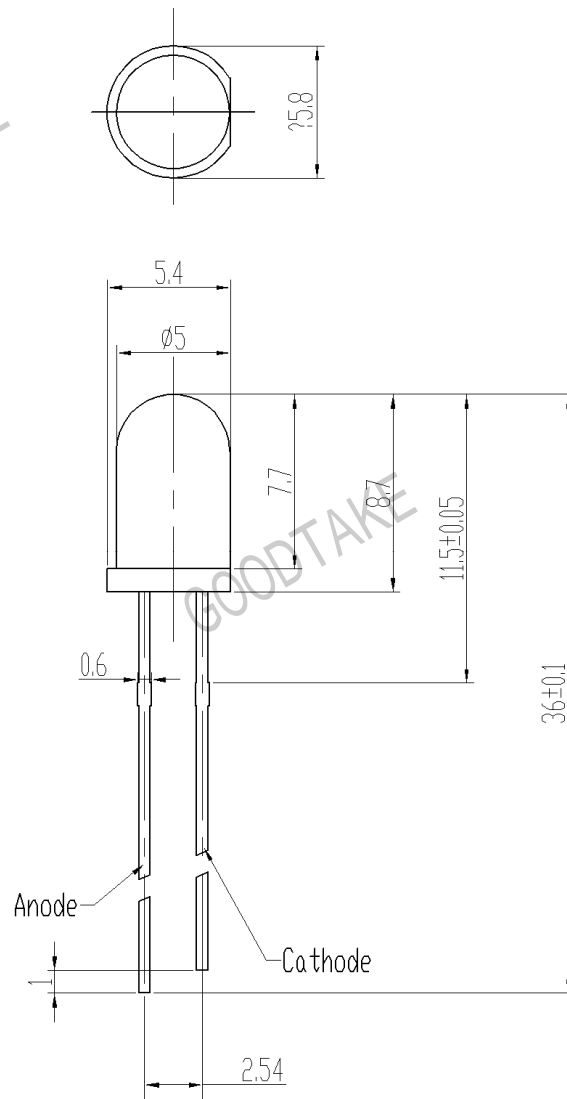


Fig.5 Angle Vs Radiant Intensity

## 6. DIMENSIONS IN MM

**Notes**

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.2$  unless otherwise noted.
3. An epoxy meniscus may extend about "0.5mm" down the leads.