

Infrared Light Emitting Diode

1. GENERAL DESCRIPTION

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

2. FEATURES

- Good linearity.
- High output power.
- Capable of pulse operation.
- Low light decay

3. ABSOLUTE MAXIMUM RATINGS AT Ta=25°C

PARAMETER	MAXIMUM RATING	UNIT
Power Dissipation	160	mW
Peak forward current	1(*1)	A
Continuous Forward Current	100	mA
Reverse voltage	5	V
Operating temperature range	-25 to +85	°C
Storage temperature range	-25 to +85	°C
Lead soldering temperature	260 for 5 seconds	°C

*1: I_{FP} conditions: frequency=1kHz , Duty=1/10.

4. ELECTRICAL OPTICAL CHARACTERISTICS AT Ta=25°C

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
Radiant Intensity	Ee	45	55	--	mW/sr	$I_F=20\text{mA}$
Peak emission wavelength	λ_{peak}	--	940	--	nm	$I_F=20\text{mA}$
Spectral line half-width	$\Delta\lambda$	--	30	--	nm	$I_F=20\text{mA}$
Forward voltage	V_F	--	1.26	1.4	V	$I_F=20\text{mA}$
		--	1.45	1.6	V	$I_F=100\text{mA}$ Pulse Width $\leq 100 \mu\text{s}$, Duty $\leq 1\%$
		--	2.8	4	V	$I_F=1\text{A}$ Pulse Width $\leq 100 \mu\text{s}$, Duty $\leq 1\%$.
Reverse current	I_R	--	--	10	μA	$V_R=5\text{V}$
Angle of Half Intensity	$2\theta/2$	--	18	--	Deg	$I_F=20\text{mA}$

5. TYPICAL ELECTRICAL/OPTICAL CHARACTERISTICS CURVES

(25°C Ambient Temperature Unless Otherwise Noted)

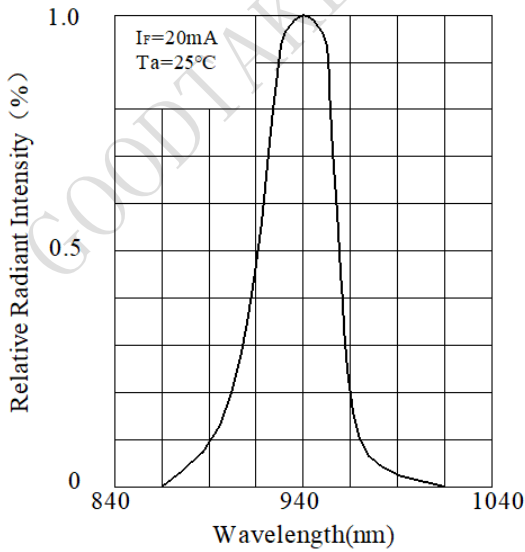


Fig.1 Relative Radiant Intensity Vs Wavelength

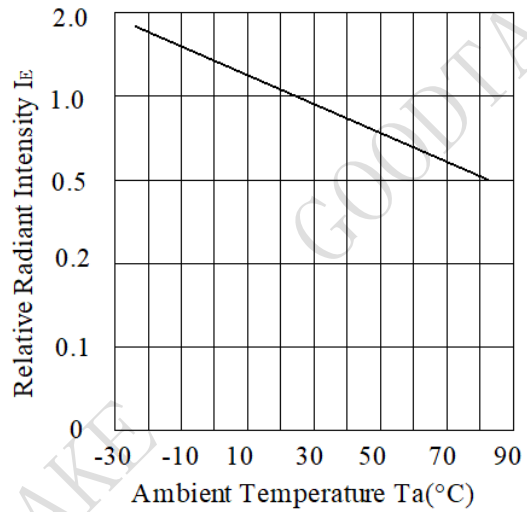


Fig.2 Relative Radiant Intensity Vs Ambient Temperature

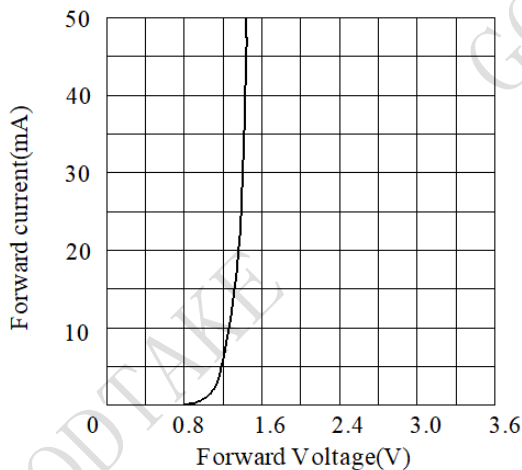


Fig.3 Forward Current Vs Forward Voltage

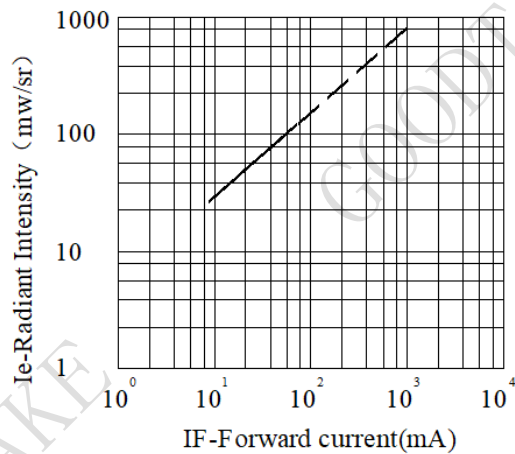


Fig.4 Forward Current Vs Radiant Intensity

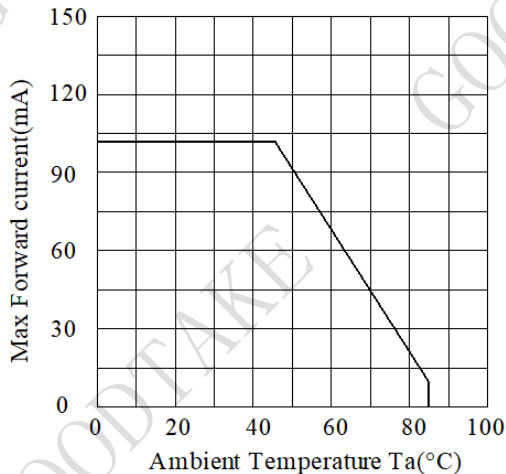


Fig.5 Max Forward Current Vs Ambient Temperature

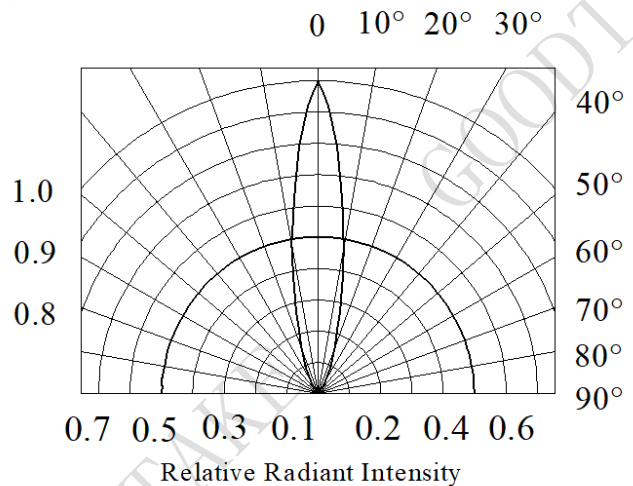
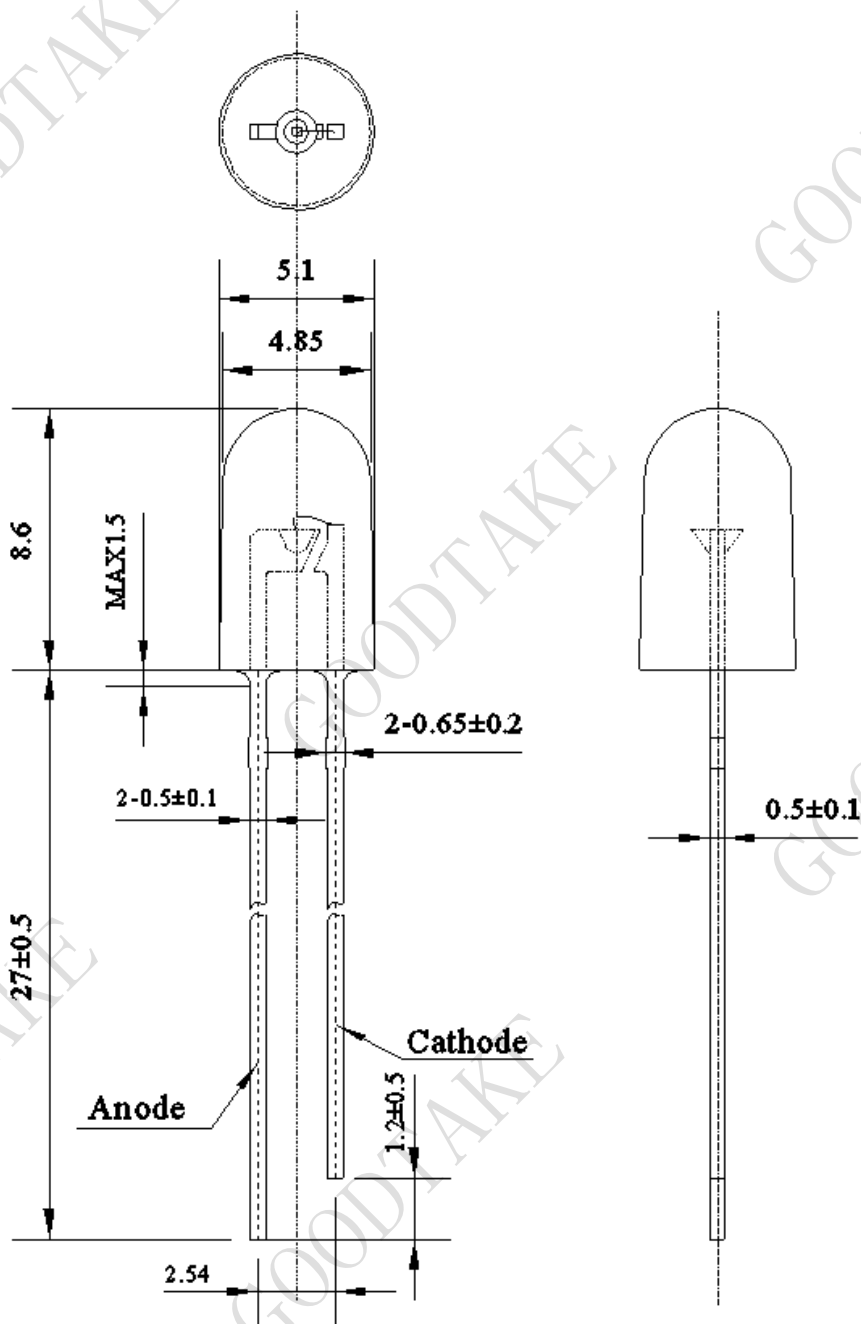


Fig.6 Angle Vs Radiant Intensity

6. PACKAGE OUTLINE DIMENSIONS



Notes

1. All dimensions are in millimeters.
2. Tolerance is ± 0.25 unless otherwise noted.