

# GaAlAs T-1 3/4 PACKAGE INFRARED EMITTING DIODE

## MIE-554H4

### Description

The MIE-554H4 is a GaAlAs infrared LED having a peak wavelength as 850nm. It features ultra-high power, high response speed and molded package with higher radiant intensity. In addition to improving the S/N ratio in applied optical systems, the MIE-554H4 has greatly improved long-distance characteristics as well as significantly increased its range of applicability.

### Features

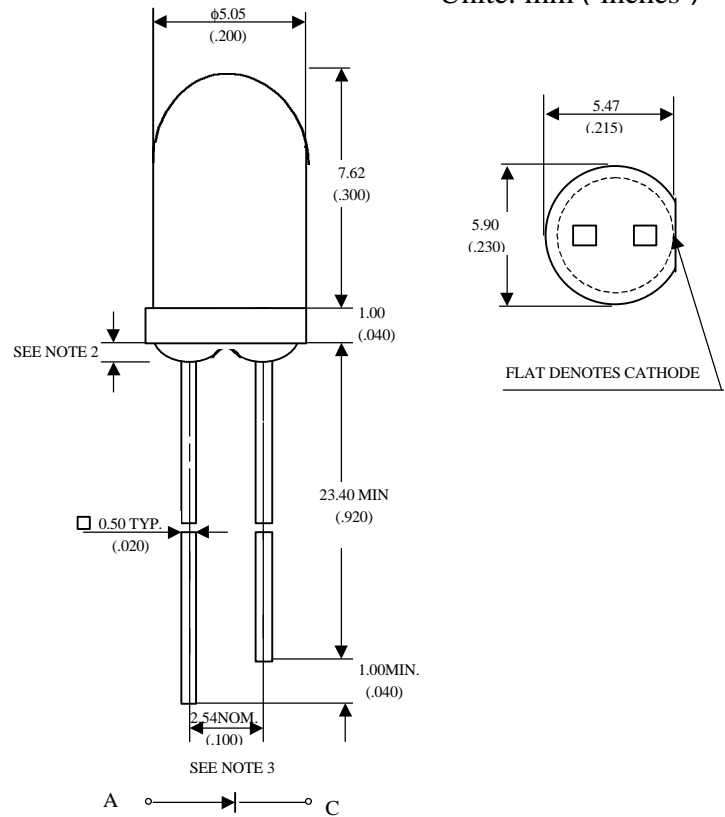
- Ultra-high radiant intensity
- High response speed
- Standard T-1 3/4 (  $\phi$  5mm ) package ,
- Peak wavelength  $\lambda_p = 850$  nm
- Radiant angle :  $50^\circ$

### Application

- Data communication
- SIR

### Package Dimensions

Unit: mm ( inches )



Notes :

1. Tolerance is  $\pm 0.25$  mm (.010") unless otherwise noted.
2. Protruded resin under flange is 1.5 mm (.059") max.
3. Lead spacing is measured where the leads emerge from the package.

### Absolute Maximum Ratings

'@  $T_A = 25^\circ\text{C}$

Parameter	Maximum Rating	Unit
Power Dissipation	120	mW
Peak Forward Current(300pps,10 $\mu$ s pulse)	1	A
Continuous Forward Current	100	mA
Reverse Voltage	5	V
Operating Temperature Range	-55 $^\circ\text{C}$ to +100 $^\circ\text{C}$	
Storage Temperature Range	-55 $^\circ\text{C}$ to +100 $^\circ\text{C}$	
Lead Soldering Temperature	260 $^\circ\text{C}$ for 5 seconds	

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## Optical-Electrical Characteristics :

@ T<sub>A</sub>=25°C

Parameter	Test Conditions	Symbol	Min.	Typ .	Max.	Unit
Radiant Intensity	I <sub>F</sub> =20mA	I <sub>e</sub>		2.1		mW/sr
Forward Voltage	I <sub>F</sub> =50mA	V <sub>F</sub>		1.5	1.8	V
Reverse Current	V <sub>R</sub> =5V	I <sub>R</sub>			100	μA
Peak Wavelength	I <sub>F</sub> =20mA	λ		850		nm
Spectral Bandwidth	I <sub>F</sub> =20mA	Δλ		30		nm
View Angle	I <sub>F</sub> =20mA	2θ1/2		50		deg .
Rise Time	I <sub>F</sub> =50mA	Tr		20		nsec
Fall Time	I <sub>F</sub> =50mA	Tf		30		nsec

## Typical Optical-Electrical Characteristic Curves :

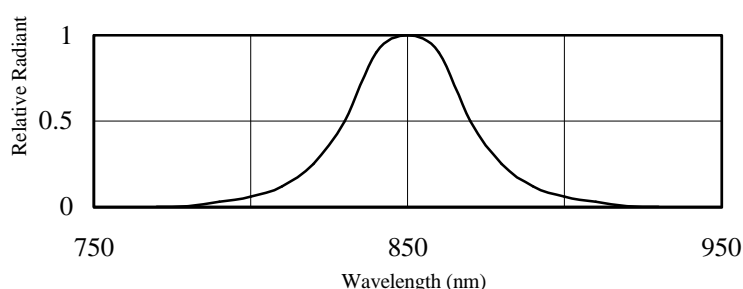


FIG.1 SPECTRAL DISTRIBUTION

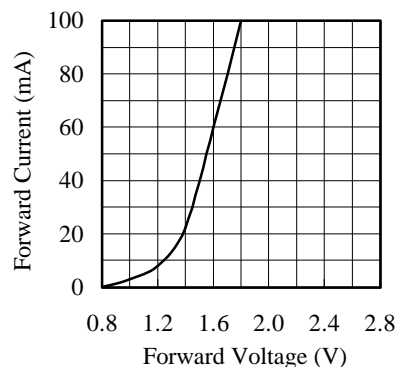


FIG.2 FORWARD CURRENT VS. FORWARD VOLTAGE

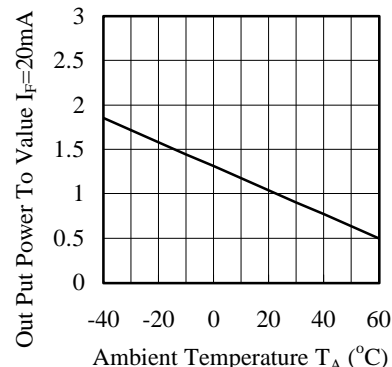


FIG.3 RELATIVE RADIANT INTENSITY VS. VS. AMBIENT TEMPERATURE

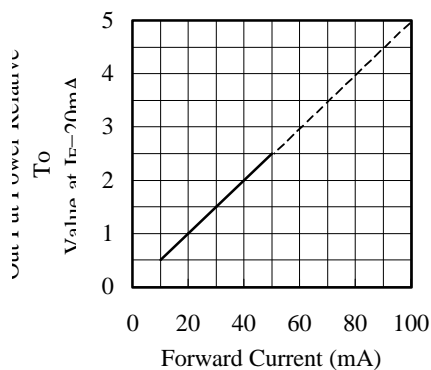


FIG.4 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

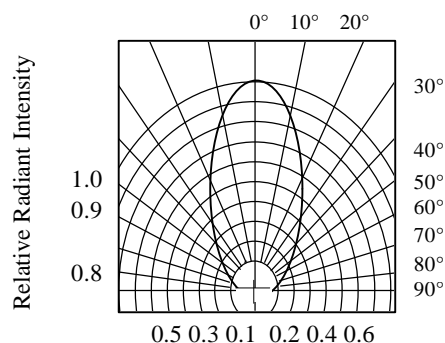


FIG.5 RADIATION DIAGRAM