

GaAlAs HIGH POWER T-1 3/4 PACKAGE INFRARED EMITTING DIODE

MIE-514H4

Description

The MIE-514H4 is a GaAlAs infrared LED having a peak wavelength at 850 nm . It feature ultra-high power, high response speed and molded in water clear plastic package, the MIE-514H4 have greatly improved long-distance characteristics as well as as significantly increased its range of applicability.

Features

- Ultra-High radiant incidence
- High response speed
- High modulation bandwidth
- Standard T-1 3/4 (ϕ 5mm) package
- Radiation angle : 15°
- Peak wavelength $\lambda_p = 850$ nm

Applications

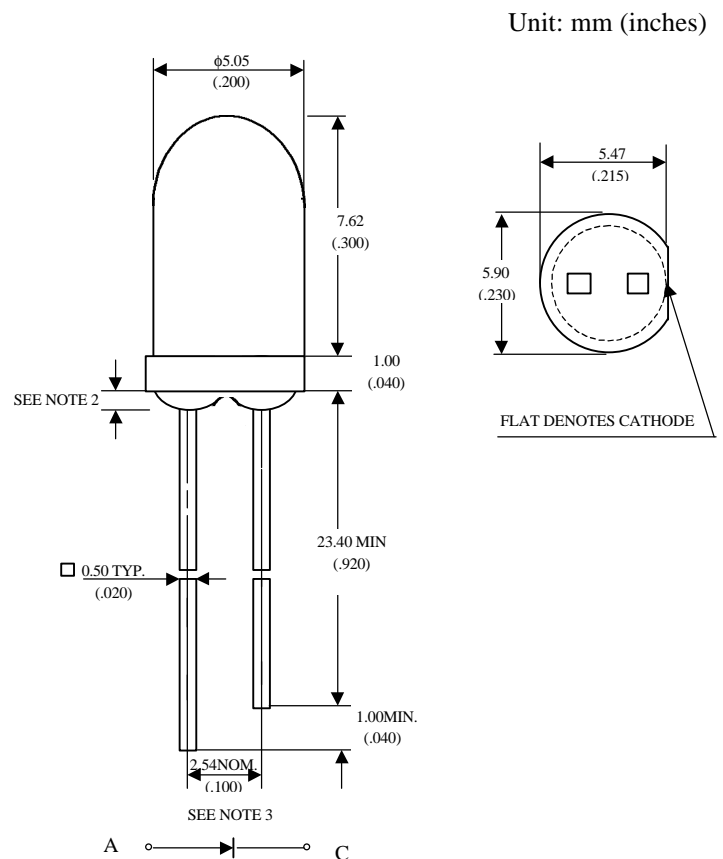
- Free air transmission systems with high -speed response
- SIR

Absolute Maximum Ratings

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

Parameter	Maximum Rating	Unit
Power Dissipation	120	mW
Peak Forward Current(300pps,10 μ s pulse)	1	A
Continuos Forward Current	100	mA
Reverse Voltage	5	V
Operating Temperature Range	-55°C to +100°C	
Storage Temperature Range	-55°C to +100°C	
Lead Soldering Temperature	260°C for 5 seconds	

Package Dimensions



NOTES :

1. Tolerance is ± 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.

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Optical-Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Radiant Intensity	$I_F=20\text{mA}$	I_e		8		mW/sr
Forward Voltage	$I_F=50\text{mA}$	V_F		1.5	1.8	V
Reverse Current	$V_R=5\text{V}$	I_R			100	μA
Peak Wavelength	$I_F=20\text{mA}$	λ_p		850		nm
Spectral Bandwidth	$I_F=20\text{mA}$	$\Delta\lambda$		30		nm
Half View Angle	$I_F=20\text{mA}$	$2\theta_{1/2}$		15		deg .
Rise Time	$I_F=50\text{mA}$	T_r		20		nsec
Fall Time	$I_F=50\text{mA}$	T_f		30		nsec

Typical Optical-Electrical Characteristic Curves

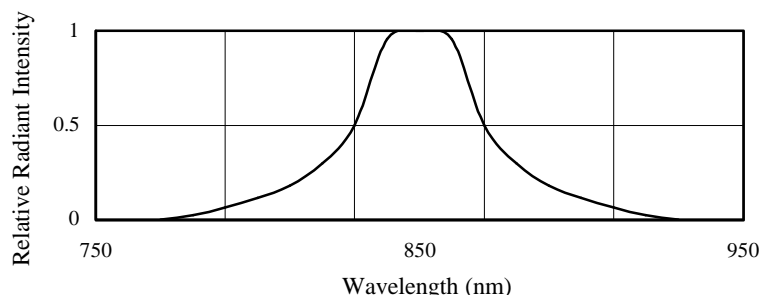


FIG.1 SPECTRAL DISTRIBUTION

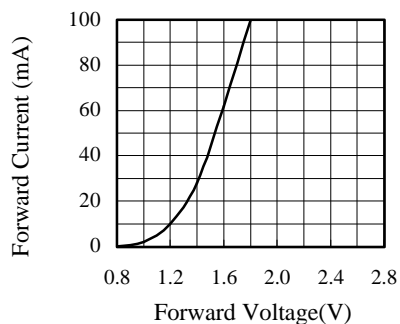


FIG.2 FORWARD CURRENT VS. FORWARD VOLTAGE

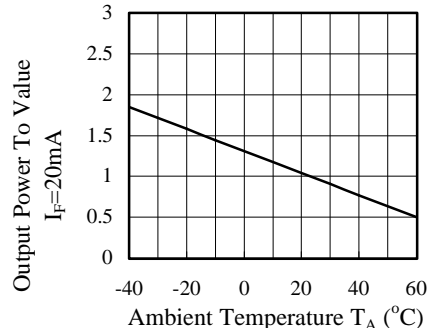


FIG.3 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

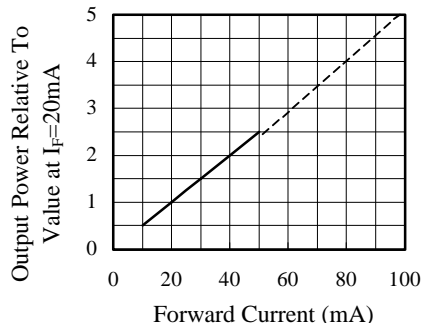


FIG.4 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

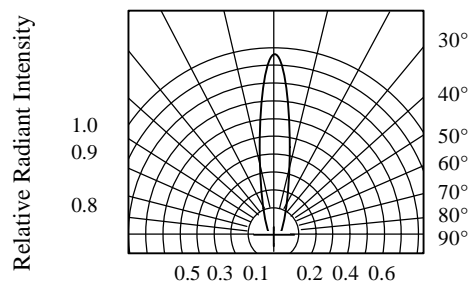


FIG.5 RADIATION DIAGRAM