

# AlGaAs/GaAs HIGH POWER T-1 3/4 PACKAGE INFRARED EMITTING DIODE

## MIE-514A4

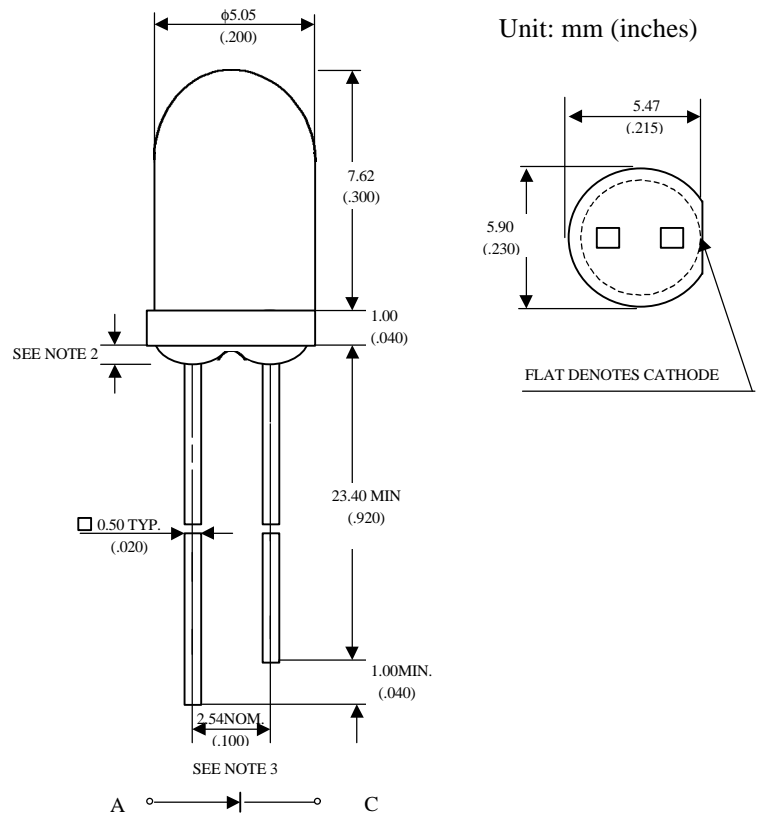
### Description

The MIE-514A4 is an infrared emitting diodes in GaAs technology with AlGaAs window coating encapsulated in water clear package.

### Features

- High radiant power and high radiantintensity
- Standard T-1 3/4 (  $\phi$  5mm) package
- Peak wavelength  $\lambda_p = 940$  nm
- Good spectral matching to si-photodetector
- Radiant angle :  $16^\circ$

### Package Dimensions



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
Continuos 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	

**UNI**

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11/17/2000

## Optical-Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Min.	Typ.	Max.	Unit
Radiant Intensity	$I_F=20\text{mA}$	$I_e$		5	-	mW/sr
Forward Voltage	$I_F=50\text{mA}$	$V_F$	-	1.30	1.5	V
Reverse Current	$V_R=5\text{V}$	$I_R$	-	-	100	$\mu\text{A}$
Peak Wavelength	$I_F=20\text{mA}$	$\lambda_p$	-	940	-	nm
Spectral Bandwidth	$I_F=20\text{mA}$	$\Delta\lambda$	-	50	-	nm
View Angle	$I_F=20\text{mA}$	$2\theta_{1/2}$	-	$16^\circ$	-	deg.

## Typical Optical-Electrical Characteristic Curves

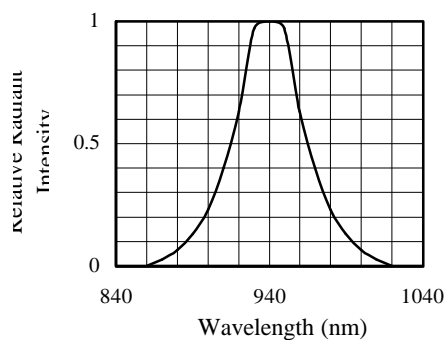


FIG.1 SPECTRAL DISTRIBUTION

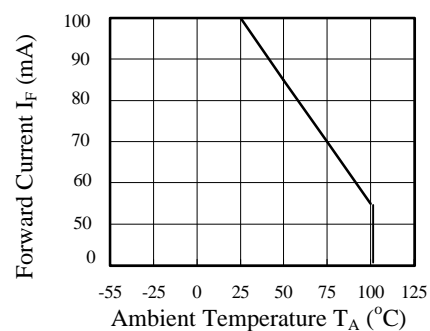


FIG.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

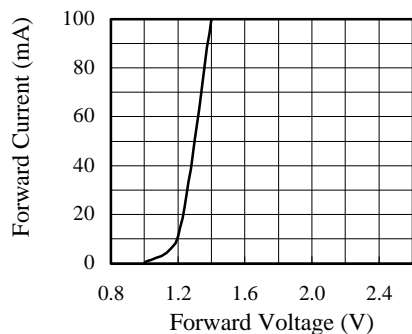


FIG.3 FORWARD CURRENT VS. FORWARD VOLTAGE

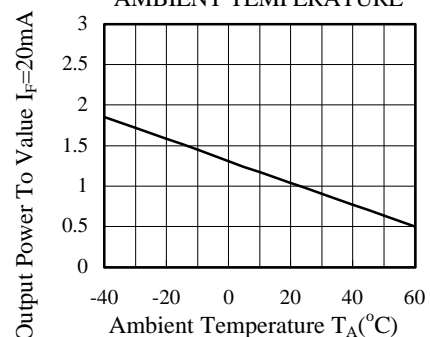


FIG.4 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

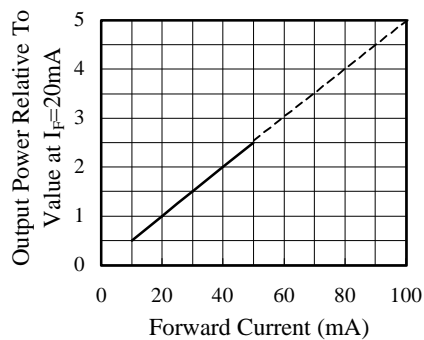


FIG.5 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

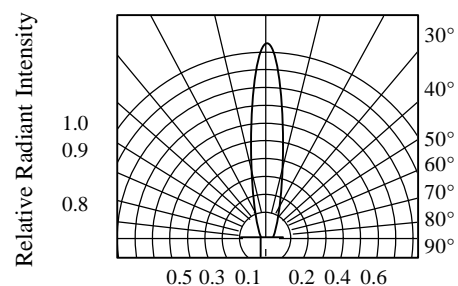


FIG.6 RADIATION DIAGRAM