

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

MIE-544H4

Description

The MIE-544H4 is a GaAlAs infrared LED having a peak wavelength at 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-544H4 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 (ϕ 5mm) package
- Peak wavelength $\lambda_p = 850$ nm
- Radiant angle : 40°

Application

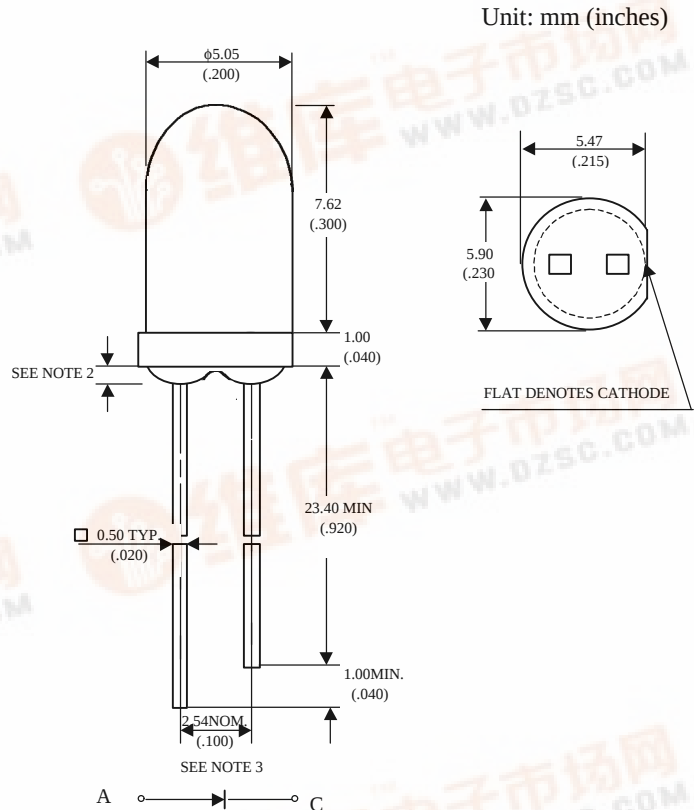
- Data communication
- SIR

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 $+100^\circ\text{C}$	
Storage Temperature Range	-55°C to $+100^\circ\text{C}$	
Lead Soldering Temperature	260 $^\circ\text{C}$ 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.

Optical-Electrical Characteristics

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

Parameter	Test Conditions	Symbol	Min.	Typ .	Max.	Unit
Radiant Intensity	$I_F=50\text{mA}$	I_e		3.0		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
View Angle	$I_F=20\text{mA}$	$2\theta_{1/2}$		40		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

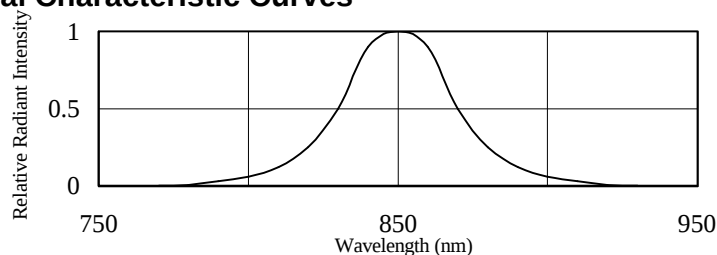


FIG.1 SPECTRAL DISTRIBUTION

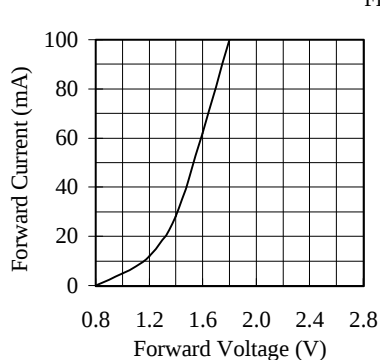


FIG.2 FORWARD CURRENT VS. FORWARD VOLTAGE

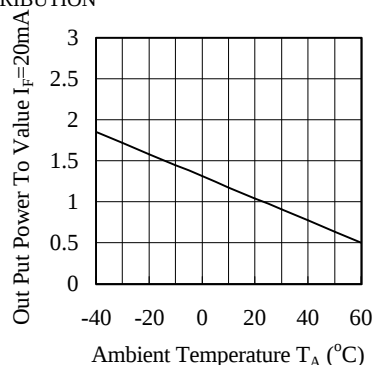


FIG.3 RELATIVE RADIANT INTENSITY VS. AMBIENT TEMPERATURE

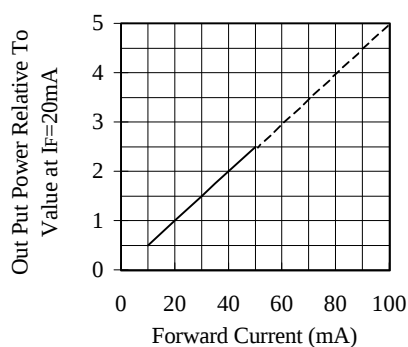


FIG.4 RELATIVE RADIANT INTENSITY VS. FORWARD CURRENT

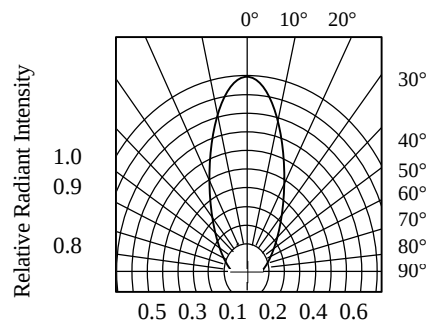


FIG.5 RADIATION DIAGRAM