

GaAlAs 1.8mm PACKAGE INFRARED EMITTING DIODE

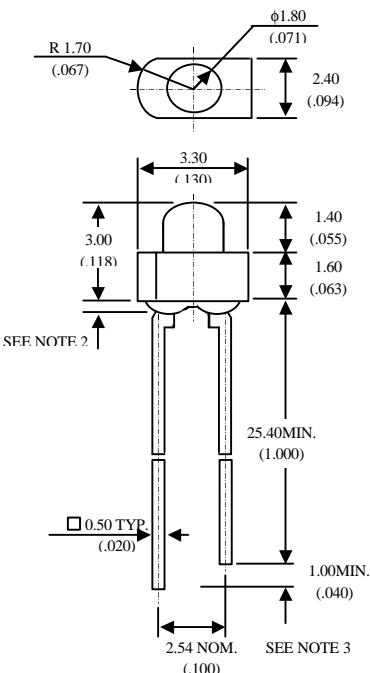
MIE-184H4

Description

The MIE-184H4K 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-184H4K has greatly improved long-distance characteristics as well as significantly increased its range of applicability .

Package Dimensions

Unit : mm (inches)



Features

- Ultra-High radiant intensity
- High response speed
- Special 1.8mm package, radiant angle : 35°
- Peak wavelength $\lambda_P = 850$ nm

Application

- Data communication
- SIR

Notes :

1. Tolerance is ± 0.25 mm (.010") unless otherwise noted.
2. Protruded resin under flange is 0.4 mm (.015") 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 | 100 | mW |
| Peak Forward Current(300pps,10μs pulse) | 1 | A |
| Continuous 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 | |

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 | | 2.5 | | 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 | | | 10 | μA |
| Peak Wavelength | $I_F=20\text{mA}$ | λ | | 850 | | nm |
| Spectral Bandwidth | $I_F=20\text{mA}$ | $\Delta\lambda$ | | 30 | | nm |
| View Angle | $I_F=20\text{mA}$ | $2\theta_{1/2}$ | | 35 | | deg . |
| Rise Time | $I_F=50\text{mA}$ | Tr | | 20 | | nsec |
| Fall Time | $I_F=50\text{mA}$ | Tf | | 30 | | nsec |

Typical Optical-Electrical Characteristic Curves

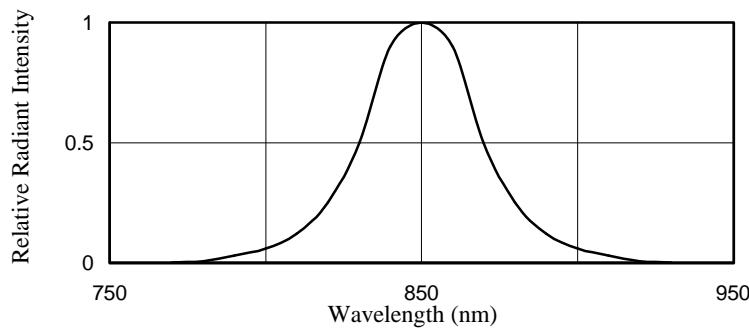


FIG.1 SPECTRAL DISTRIBUTION

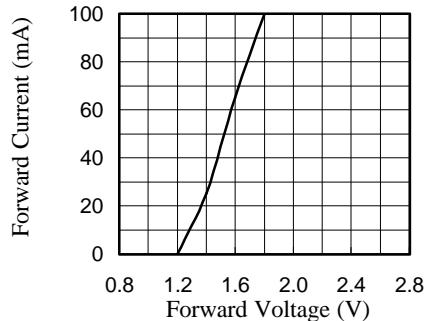


FIG.2 FORWARD CURRENT VS.
FORWARD VOLTAGE

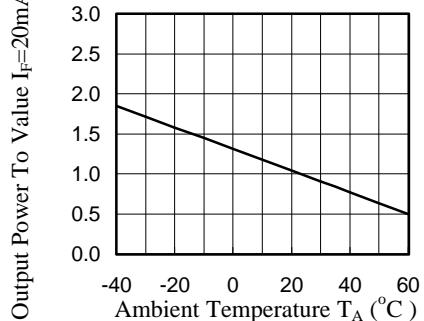


FIG.3 RELATIVE RADIANT INTENSITY
VS. AMBIENT TEMPERATURE

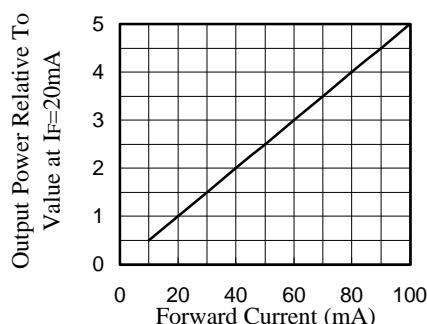


FIG.4 RELATIVE RADIANT INTENSITY
VS. FORWARD CURRENT

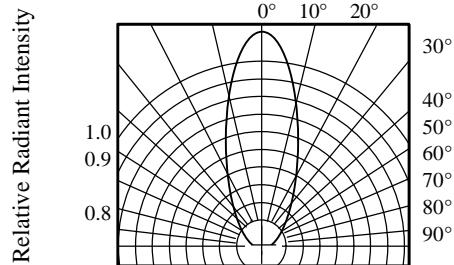


FIG.5 RADIATION DIAGRAM