

62017

**GaAs LIGHT EMITTING DIODE "PIGTAIL"
(TYPE GS3040)**



Features:

- Hermetically sealed
- High output, 940nm
- Small package
- PC board mountable
- Spectrally matched to the 61053 series detector

Applications:

- Incremental encoding
- Reflective sensors
- Position sensors
- Level sensors

DESCRIPTION

The **62017** is a P-N GaAs Infrared Light Emitting Diode in a lensed coaxial package designed to be mounted in a single-clad printed circuit board. It is spectrally and mechanically matched to companion phototransistors and photodarlington with its narrow beam angle lens and small size which make it ideal for use in optical encoders, card reader arrays, etc. This device is also available with a lead attached to the case so that it may be connected without the use of a printed board. Available binned to customer specifications and/or screened to MIL-PRF-19500.

ABSOLUTE MAXIMUM RATINGS

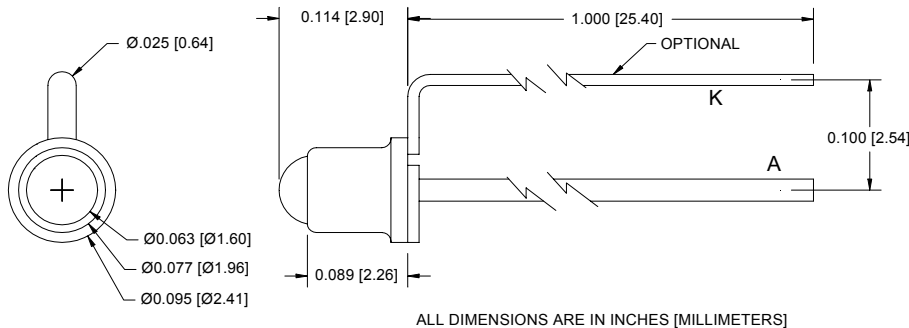
| | |
|--|-------------------------|
| Storage Temperature | -65°C to +150°C |
| Operating Temperature | -65°C to +125°C |
| Reverse Voltage (at 25°C case temperature) | (See note 1) 2Vdc |
| Forward Current-Continuous | 100mA |
| Soldering Temperature (3 Minutes) | 240°C |

NOTES:

1. Derate linearly to 125°C free-air temperature at the rate of 1mA/°C.

Package Dimensions

Schematic Diagram



ELECTRICAL CHARACTERISTICS

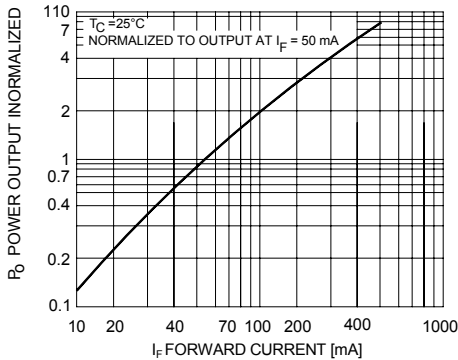
T_A = 25°C unless otherwise specified.

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITIONS | NOTE |
|--------------------------------|--|------------------------------|------------------------------|-----|---------|-----------------------|------|
| Output Power | 62017-X01 62017-X02 62017-X03 62017-X04 | 0.20 0.35 0.70 1.25 | 0.30 0.65 0.90 1.35 | | mW | I _F = 50mA | |
| Forward Voltage | 62017-XXX | | | 1.6 | V | I _F = 50mA | |
| Reverse Breakdown Voltage | 62017-XXX | 2 | | | V | I _H = 10μA | |
| Radiation Rise Time | 62017-XXX | | 0.7 | | μs | | |
| Peak Wavelength | 62017-XXX | | 940 | | nm | I _F = 50mA | 2 |
| Beam Angle | 62017-XXX | | 12 | | degrees | | 1 |
| Forward Max Continuous Current | 62017-XXX | | | 100 | mA | 25°C Case | |

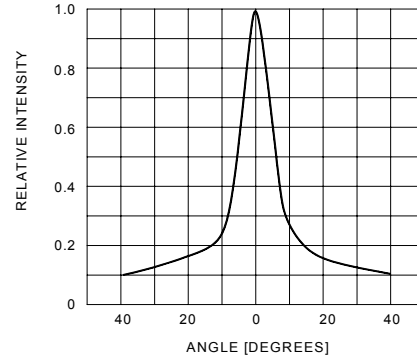
NOTES:

1. Angle between half-intensity points.
2. Available in GaAlAs version (880)

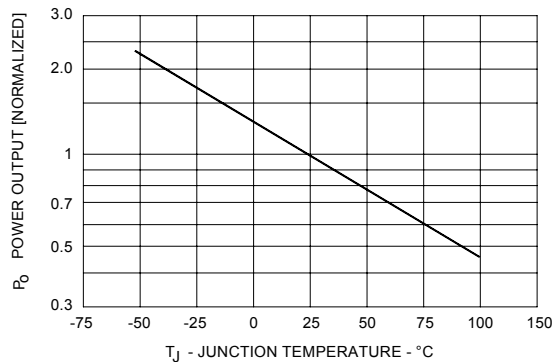
INSTANTANEOUS POWER OUTPUT versus FORWARD CURRENT



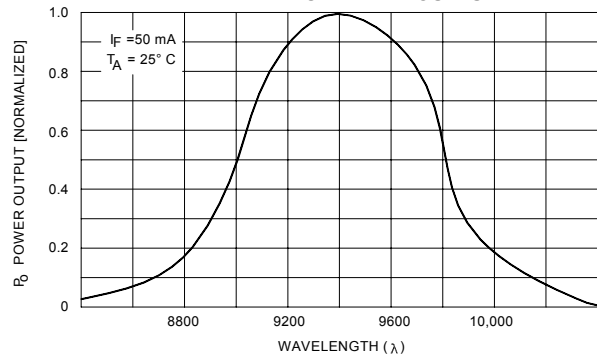
RADIATION PATTERN



POWER OUTPUT versus JUNCTION TEMPERATURE



RELATIVE SPECTRAL OUTPUT



RECOMMENDED OPERATING CONDITIONS:

| PARAMETER | SYMBOL | MIN | MAX | UNITS |
|-----------------|----------------|-----|-----|-------|
| Forward Current | I _F | 50 | 100 | mA |

SELECTION GUIDE

| PART NUMBER | PART DESCRIPTION | P _O Range |
|-------------|---|----------------------|
| 62017-001 | GaAs LED in coaxial package, commercial version | +0.20-+0.30 mW |
| 62017-101 | GaAsLED in coaxial package (-55° to +100°C) with 100% screening | +0.20 -+0.30 mW |
| 62017-002 | GaAs LED in coaxial package, commercial version | +0.35-+0.65 mW |
| 62017-102 | GaAsLED in coaxial package (-55° to +100°C) with 100% screening | +0.35-+0.65 mW |
| 62017-003 | GaAs LED in coaxial package, commercial version | +0.70-+0.90 mW |
| 62017-103 | GaAsLED in coaxial package (-55° to +100°C) with 100% screening | +0.70-+0.90 mW |
| 62017-004 | GaAs LED in coaxial package, commercial version | +1.25-+1.35 mW |
| 62017-104 | GaAsLED in coaxial package (-55° to +100°C) with 100% screening | +1.25-+1.35 mW |

NOTE: Add L to end of dash number to signify addition of loop lead requirement.