# *62000* GaAs LIGHT EMITTING DIODE “PILL PACK” (TYPE GS1140)

**Mii**
**OPTOELECTRONIC PRODUCTS DIVISION**

**Features:**

- Hermetically sealed
- High output, 940nm
- Small package
- PC board mountable
- Spectrally matched to the 61055 series detector

**Applications**

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

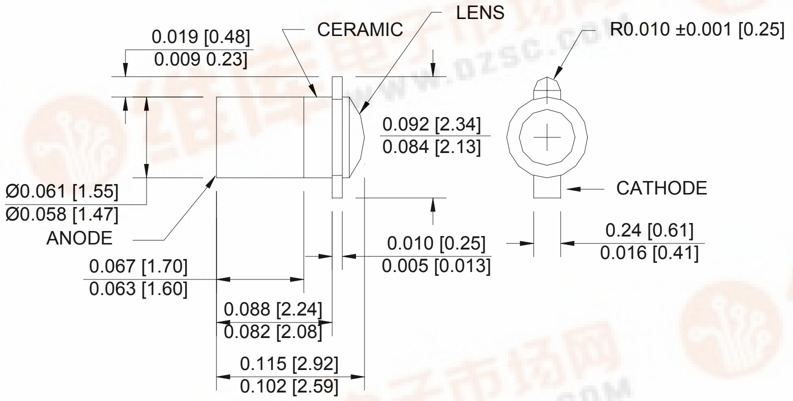
## DESCRIPTION

The ***62000*** is a P-N GaAs Infrared Light Emitting Diode in a lensed “pill” package designed to be mounted in a double-clad printed circuit board. It is spectrally and mechanically matched to companion phototransistors and photodarlingtons with it’s narrow beam angle lens and small size which make it ideal for use in optical encoders, card reader arrays, etc. Available binned to customer specifications and/or screened to MIL-PRF-19500.

## ABSOLUTE MAXIMUM RATINGS

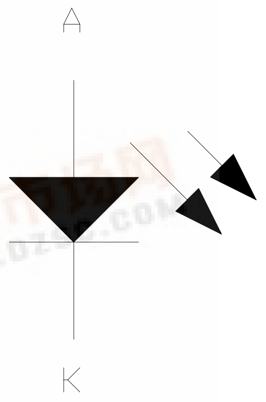
| | |
|---|---|
| Storage Temperature | -65°C to +150°C |
| Operating Temperature | -65°C to +125°C |
| Reverse Voltage( at 25°C case temperature) | 2Vdc |
| Forward Current-Continuous | 100mA |
| Soldering Temperature (3 Minutes) | 240°C |

**Package Dimensions**



ALL DIMENSIONS ARE IN INCHES [MILLIMETERS]

**Schematic Diagram**



## ELECTRICAL CHARACTERISTICS

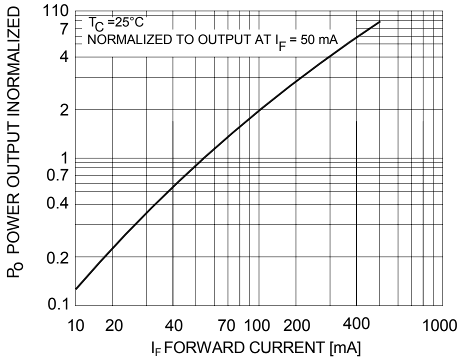
$T_A$ = 25°C unless otherwise specified.

| PARAMETER | | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITIONS | NOTE |
|---|---|---|---|---|---|---|---|---|
| Output Power | 62000-X01 | $P_O$ | 0.25 | 0.3 | | mW | $I_F$ = 50mA | |
| | 62000-X02 | | 0.40 | 0.65 | | | | |
| | 62000-X03 | | 1.0 | 1.2 | | | | |
| | 62000-X04 | | 1.5 | 1.6 | | | | |
| Forward Voltage | 62000-XXX | $V_F$ | | | 1.6 | V | $I_F$ =50mA | |
| Reverse Breakdown Voltage | 62000-XXX | $B_{VR}$ | 2 | | | V | $I_B$ = 10µA | |
| Radiation Rise Time | 62000-XXX | $t_R$ | | 0.7 | | µs | | |
| Peak Wavelength | 62000-XXX | $\lambda_P$ | | 940 | | nm | $I_F$ =50mA | |
| Beam Angle | 62000-XXX | θ | | 20 | | degrees | | 1 |
| Forward Max Continuous Current | 62000-XXX | $I_{F(MAX)}$ | | | 100 | mA | 25°C Case | |

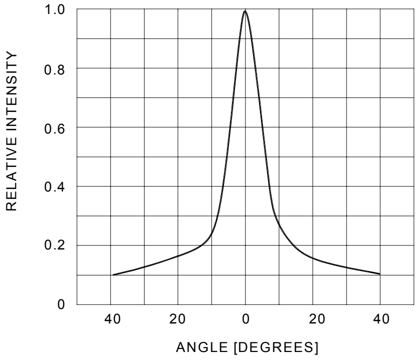
**NOTES:**

1. Low profile 40° lens also available.

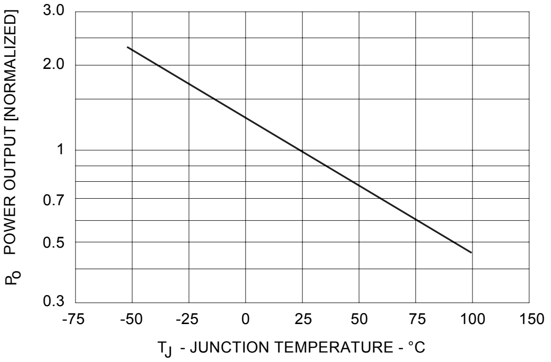
**INSTANTANEOUS POWER OUTPUT versus FORWARD CURRENT**



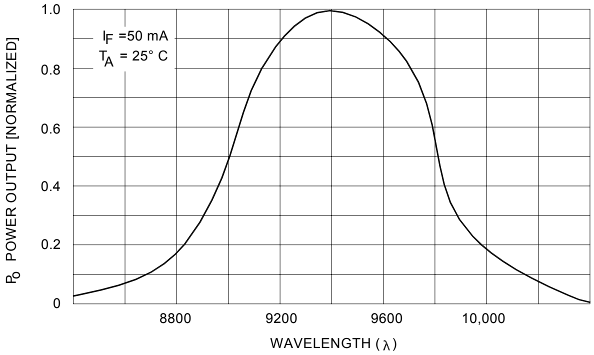
**RADIATION PATTERN**



**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 |
|---|---|---|
| 62000-001 | GaAs LED in pill package, commercial version | +0.25 mW |
| 62000-101 | GaAsLED in pill package (-55° to +100°C) with 100% screening | +0.25 mW |
| 62000-002 | GaAs LED in pill package, commercial version | +0.4 mW |
| 62000-102 | GaAsLED in pill package (-55° to +100°C) with 100% screening | +0.4 mW |
| 62000-003 | GaAs LED in pill package, commercial version | +1 mW |
| 62000-103 | GaAsLED in pill package (-55° to +100°C) with 100% screening | +1 mW |
| 62000-004 | GaAs LED in pill package, commercial version | +1.5 mW |
| 62000-104 | GaAsLED in pill package (-55° to +100°C) with 100% screening | +1.5 mW |