



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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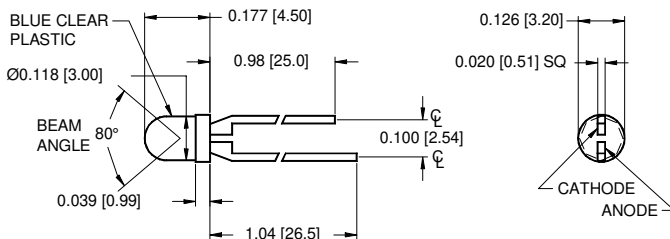
# PHOTONIC DETECTORS INC.

## High-Power GaAlAs Infrared Emitters Peak Wavelength, 880 nm, Type PDI-E808



### PACKAGE DIMENSIONS inch (mm)

INDUSTRY EQUIVALENTS  
SFH487 & SEP8705



BLUE TINT T 1 PACKAGE  
40° HALF INTENSITY BEAM ANGLE

### FEATURES

- High output power
- High reliability
- Medium emission angle

**DESCRIPTION:** The **PDI-E808** infrared emitting diode uses high reliability liquid phase epitaxially grown GaAlAs. Optimized for high power, high efficiency. This 880 nm I.R. emitter is packaged in a low cost T 1 [3 mm diameter] package.

### APPLICATIONS

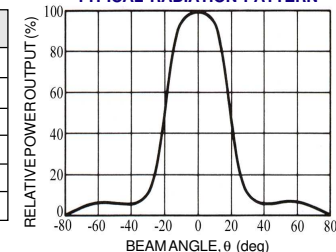
- Photoelectric switches
- Infrared sources
- Automatic controls

### ABSOLUTE MAXIMUM RATING (TA=25°C unless otherwise noted)

| SYMBOL          | PARAMETER                         | MIN | MAX  | UNITS |
|-----------------|-----------------------------------|-----|------|-------|
| Pd              | Power Dissipation                 |     | 200  | mW    |
| I <sub>FP</sub> | Continuous Forward Current        |     | 100  | mA    |
| I <sub>FP</sub> | Peak Forward Current (10μs, 10Hz) |     | 2.5  | A     |
| V <sub>R</sub>  | Reverse voltage                   |     | 5    | V     |
| To & Ts         | Storage & Operating Temperature   | -55 | +100 | °C    |
| TS              | Soldering Temperature*            |     | +240 | °C    |

\*1/16 inch from case for 3 secs max

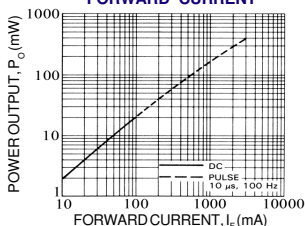
### TYPICAL RADIATION PATTERN



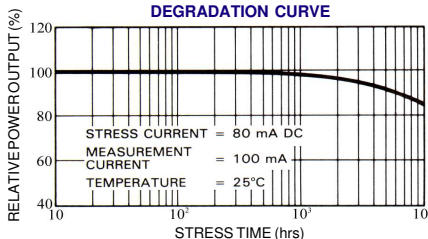
### ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| SYMBOL         | CHARACTERISTIC            | TEST CONDITIONS                 | MIN | TYP | MAX | UNITS |
|----------------|---------------------------|---------------------------------|-----|-----|-----|-------|
| I <sub>E</sub> | Radiant Intensity         | I <sub>F</sub> = 50 mA          | 30  | 50  |     | mW/Sr |
| V <sub>F</sub> | Forward Voltage           | I <sub>F</sub> = 100 mA         |     | 1.6 | 2.0 | V     |
| V <sub>R</sub> | Reverse Breakdown Voltage | I <sub>F</sub> = 100 μA         | 5   | 30  |     | V     |
| λ <sub>P</sub> | Peak Wavelength           | I <sub>F</sub> = 50 mA          | 883 | 880 | 886 | nm    |
| Δλ             | Spectral Halfwidth        | I <sub>F</sub> = 50 mA          |     | 70  |     | nm    |
| C <sub>t</sub> | Terminal Capacitance      | V <sub>R</sub> = 0 V, f = 1 MHz |     | 20  |     | pF    |
| t <sub>r</sub> | Rise Time                 | I <sub>F</sub> = 100 mA         |     | 1.5 |     | μs    |
| t <sub>f</sub> | Fall Time                 | I <sub>F</sub> = 50 mA          |     | 0.8 |     | μs    |

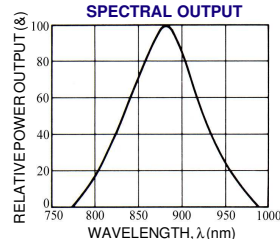
### POWER OUTPUT vs FORWARD CURRENT



### TYPICAL POWER OUTPUT DEGRADATION CURVE



### SPECTRAL OUTPUT



Information in this technical data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice. Optical power and radiant intensity measured using uncapped dimpled TO-46 into integrating sphere. [FORM NO. 100-PDI-E808 REV A]