

FEATURES

- High output power
- High reliability
- Medium emission angle

DESCRIPTION:

The PDI-E807 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 TO-46 can with a glass lens cap.

APPLICATIONS

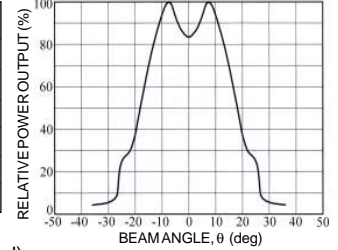
- Photoelectric switches
- Infrared sources
- Automatic controls

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

| SYMBOL | PARAMETER | MIN | MAX | UNITS |
|-----------------|-----------------------------------|-----|------|-------|
| Pd | Power Dissipation | | 160 | mW |
| I _{FP} | Continuous Forward Current | | 100 | mA |
| I _{FP} | Peak Forward Current (10μs, 10Hz) | | 3.0 | A |
| V _R | 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

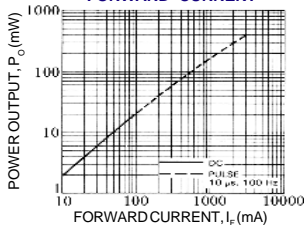
TYPICAL RADIATION PATTERN



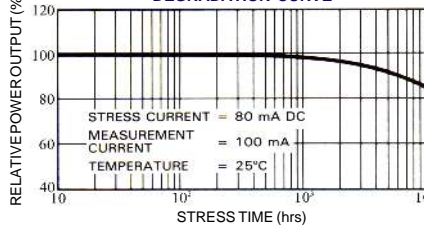
ELECTRO-OPTICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| SYMBOL | CHARACTERISTIC | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------|---------------------------|---------------------------------|-----|-----|-----|-------|
| P ₀ | Output Power | I _F = 100 mA | 18 | 24 | | mW/Sr |
| V _F | Forward Voltage | I _F = 100 mA | | 1.6 | 2.0 | V |
| V _R | Reverse Breakdown Voltage | I _F = 100 μA | 5 | 30 | | V |
| λ _P | Peak Wavelength | I _F = 50 mA | 883 | 880 | 886 | nm |
| Δλ | Spectral Halfwidth | I _F = 50 mA | | 70 | | nm |
| C _i | Terminal Capacitance | V _R = 0 V, f = 1 MHz | | 20 | | pF |
| t _r | Rise Time | I _F = 100 mA | | 1.5 | | μs |
| t _f | Fall Time | I _F = 50 mA | | 0.8 | | μs |

POWER OUTPUT vs FORWARD CURRENT



TYPICAL POWER OUTPUT DEGRADATION CURVE



SPECTRAL OUTPUT

