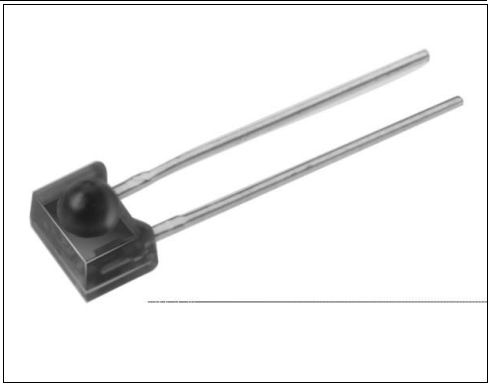
Jameco Part Number 1914331

# SEP8736

## AlGaAs Infrared Emitting Diode

### FEATURES

- Side-looking plastic package
- 10° (nominal) beam angle
- 880 nm wavelength
- Enhanced coupling distance
- Mechanically and spectrally matched to SDP8436 phototransistor



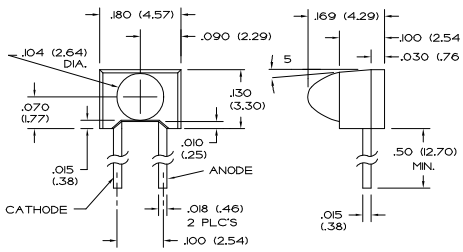
INFRA-80.TIF

### DESCRIPTION

The SEP8736 is an aluminum gallium arsenide infrared emitting diode molded in a side-emitting smoke gray plastic package. The body and integral lens design combines the mounting advantage of a side-emitting package with the narrow emission pattern of a T-1 style device. The SEP8736 IRED is designed for those applications which require longer coupling distances than standard side-emitting devices can provide, such as touch screens. The IRED is also especially well suited to applications in which adjacent channel crosstalk could be a problem.

### OUTLINE DIMENSIONS in inches (mm)

| | | |
|---|---|---|
| Tolerance | 3 plc decimals | ±0.005(0.12) |
| | 2 plc decimals | ±0.020(0.51) |

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# SEP8736

## AlGaAs Infrared Emitting Diode

**ELECTRICAL CHARACTERISTICS** (25°C unless otherwise noted)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNITS | TEST CONDITIONS |
|---|---|---|---|---|---|---|
| Irradiance (1) | H | | | | mW/cm² | $I_F$=20 mA |
| SEP8736-001 | | 0.5 | | | | |
| SEP8736-002 | | 1.2 | | 3.0 | | |
| SEP8736-003 | | 1.7 | | | | |
| Forward Voltage | $V_F$ | | | 1.7 | V | $I_F$=20 mA |
| Reverse Breakdown Voltage | $V_{BR}$ | 3.0 | | | V | $I_R$=10 µA |
| Peak Output Wavelength | $\lambda_p$ | | 880 | | nm | |
| Spectral Bandwidth | $\Delta\lambda$ | | 80 | | nm | |
| Spectral Shift With Temperature | $\Delta\lambda_p/\Delta_T$ | | 0.2 | | nm/°C | |
| Beam Angle (2) | Ø | | 10 | | degr. | $I_F$=Constant |
| Radiation Rise And Fall Time | $t_r$, $t_f$ | | 0.7 | | µs | |

Notes
1. Measured in mW/cm² into a 0.104 (2.64) diameter aperture placed 0.500(12.7) from the lens tip.
2. Beam angle is defined as the total included angle between the half intensity points.

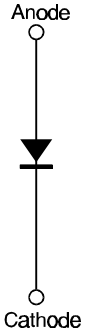
**ABSOLUTE MAXIMUM RATINGS**

(25°C Free-Air Temperature unless otherwise noted)

| | |
|---|---|
| Continuous Forward Current | 50 mA |
| Power Dissipation | 100 mW (1) |
| Operating Temperature Range | -40°C to 85°C |
| Storage Temperature Range | -40°C to 85°C |
| Soldering Temperature (5 sec) | 240°C |

Notes
1. Derate linearly from 25°C free-air temperature at the rate of 0.78 mW/°C.

**SCHEMATIC**



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# SEP8736

## AlGaAs Infrared Emitting Diode

Fig. 1 Radiant Intensity vs Angular Displacement

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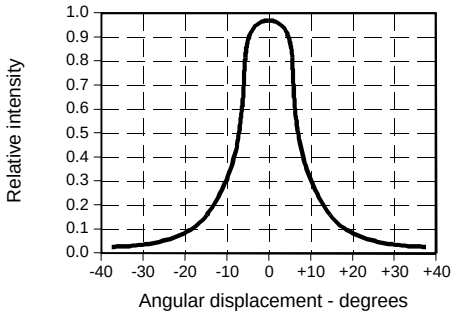


Fig. 2 Radiant Intensity vs Forward Current

gra_033.ds4

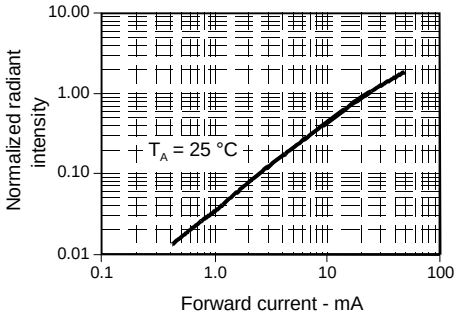


Fig. 3 Forward Voltage vs Forward Current

gra_201.ds4

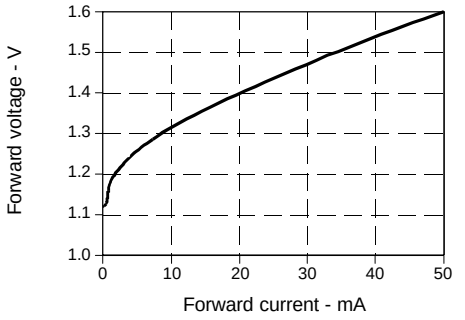


Fig. 4 Forward Voltage vs Temperature

gra_208.ds4

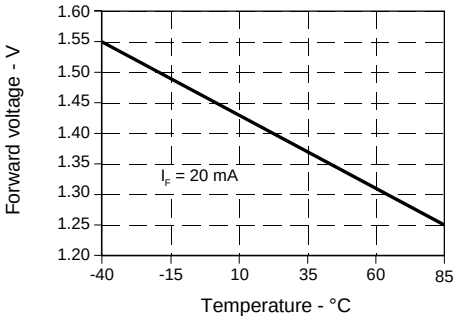


Fig. 5 Spectral Bandwidth

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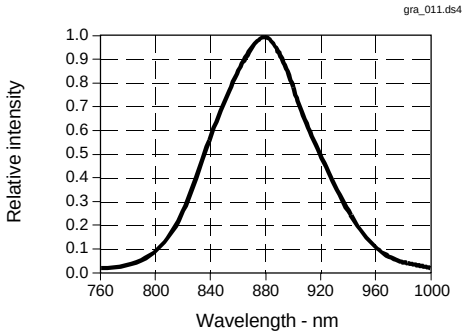


Fig. 6 Coupling Characteristics with SDP8436

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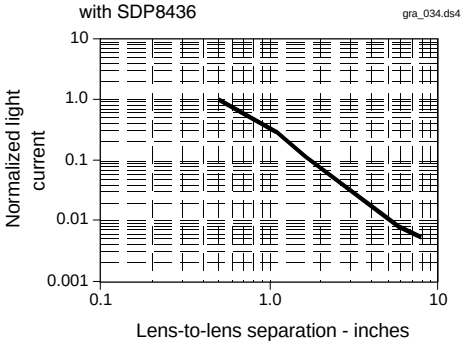




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Fig. 7 Relative Power Output vs Free Air Temperature

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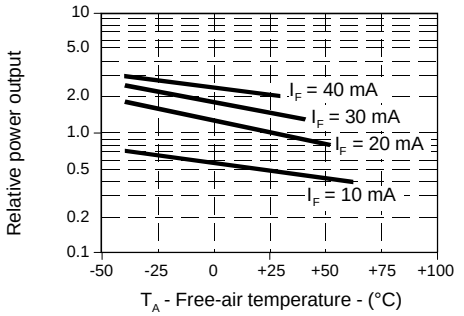


All Performance Curves Show Typical Values