GaAs Infrared Emitter

FPE106

Optoelectronic Products

General Description
The FPE106 is a GaAs infrared light-emitting diode in a miniature ceramic case with exceptionally stable characteristics. This device is used in applications where space is limited such as custom tape and card readers.

Exceptionally Stable Characteristics
Miniature—85 × 185 × 95 Mils
Suitable For PC Card Mounting

Absolute Maximum Ratings

Maximum Temperature and Humidity

Storage Temperature	−40°C to +100°C
Operating Temperature	−40°C to +85°C
Pin Temperature (Soldering, 10 s)	260°C
Relative Humidity at 65°C	85%

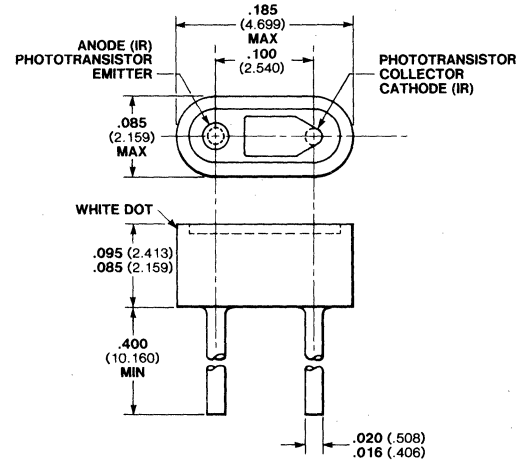
Maximum Power Dissipation

Total Dissipation at T_A = 25°C	150 mW
Derate Linearly from 25°C	2.5 mW/°C

Maximum Voltages and Currents

V_R	Reverse Voltage	3.0 V
I_F	Forward dc Current	100 mA

Package Outline



Notes
All dimensions in inches **bold** and millimeters (parentheses)
Tolerance unless specified = ±**.015** (0.381)

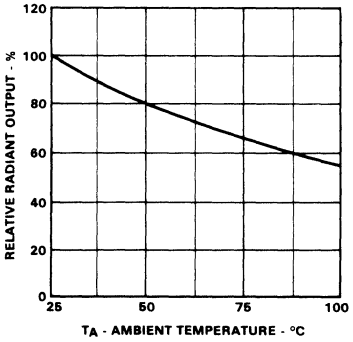
Electrical Radiant Characteristics T_A = 25°C

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
V_F	Forward Voltage		1.3	1.5	V	I_F = 50 mA
V_R	Reverse Voltage	3.0	6.0		V	I_R = 100 μA
I_O	Axial Intensity	35	200		μW/sr	I_F = 50 mA
$\theta_{1/2}$	Beam Angle at Half Power	3.5	80		degrees	
λ_{pk}	Peak Spectral Wavelength		890		nm	

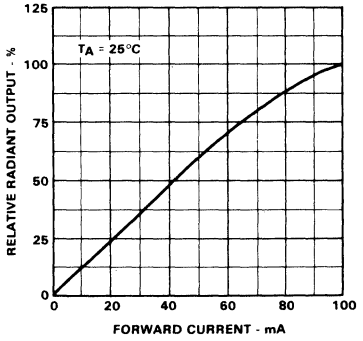
Typical Electrical Characteristic Curves

FPE106

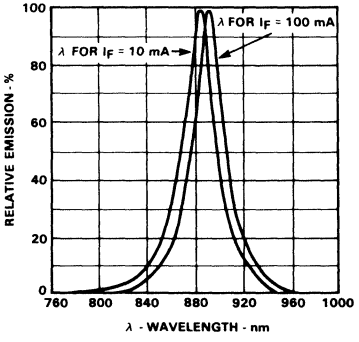
Radiant Output vs Temperature



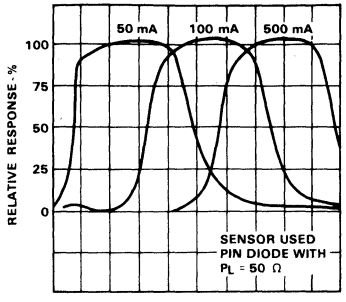
Radiant Output vs DC Forward Current



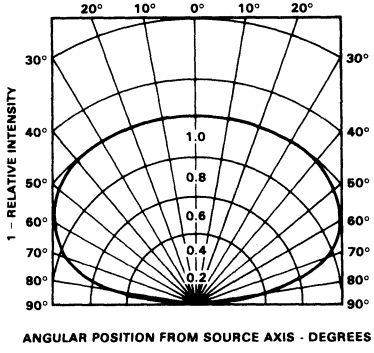
Emission Spectrum



Radiant Emission Transient Response



Radiation Pattern



Forward Current vs Forward Voltage (DC)