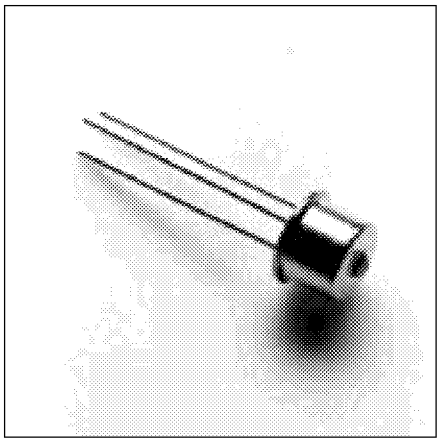
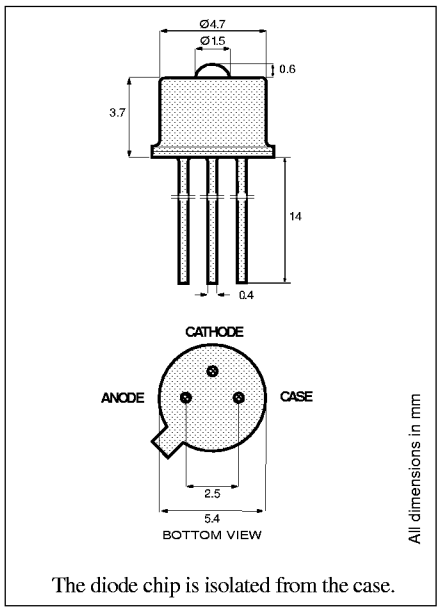
750nm 850nm 1A446 High-Performance PIN

Datacom, General Purpose

The very high speed and low capacitance of this GaAs PIN Photodiode makes it ideal for datacom and general purpose applications. Its double-lens optical system collects power from fibers with up to 100 μm core without loss in responsivity. And a reverse voltage of only 3.3 Volts makes interfacing to a preamplifier easy.





The diode chip is isolated from the case.

TO-46 Package With Lens

Optical and Electrical Characteristics (25°C Case Temperature)

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITION	
Responsivity (Fig.1&2) (Table1)	R		0.45		A/W	V_R=3.3V, 5V λ=850nm	Fiber: 62.5/125μm Graded Index NA=0.275
Bandwidth	f_c		1.5		GHz	V_R=3.3V, 5V R_L=50Ω	
Capacitance (Fig. 4)	C		0.8		pF	V_R=3.3V, 5V, f=1MHz	
Dark Current	I_d			0.4	nA	V_R=3.3V, 5V	

Absolute Maximum Ratings

PARAMETER	SYMBOL	LIMIT
Storage Temperature	T_{stg}	-55 to +125°C
Operating Temperature	T_{op}	-55 to +125°C
Reverse Voltage	V_R	30V
Soldering Temperature (2mm from the case for 10 sec)	T_{sld}	260°C

Thermal Characteristics

PARAMETER	SYMBOL	MIN.	TYP.	MAX.	UNIT
Temperature Coefficient - Dark Current	dI_d/dT_j		5		%/°C

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Typical Responsivity		
Core Diameter/Cladding Diameter Numerical Aperture		
10/125 µm 0.11	50/125 µm 0.20	62.5/125 µm 0.275
0.45 A/W	0.45 A/W	0.45 A/W

Table 1

FIGURE 1

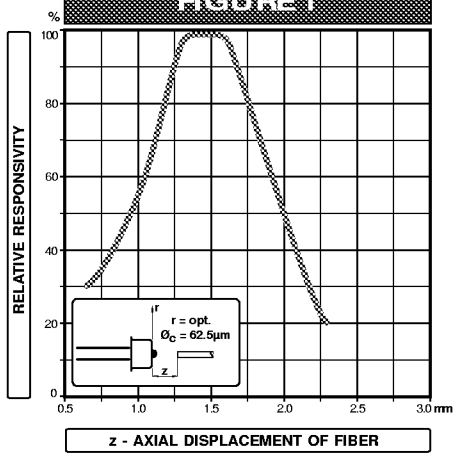

FIGURE 2

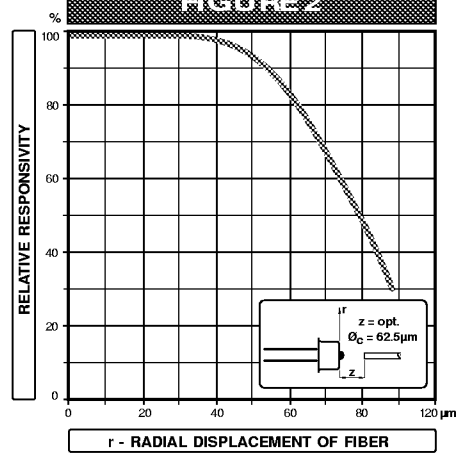

FIGURE 3

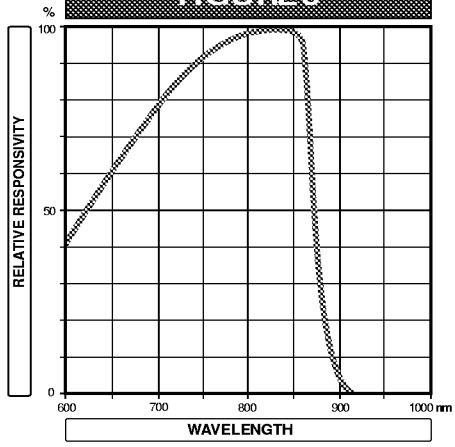

FIGURE 4