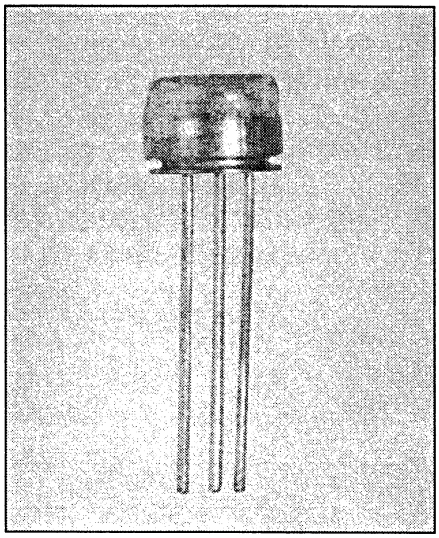
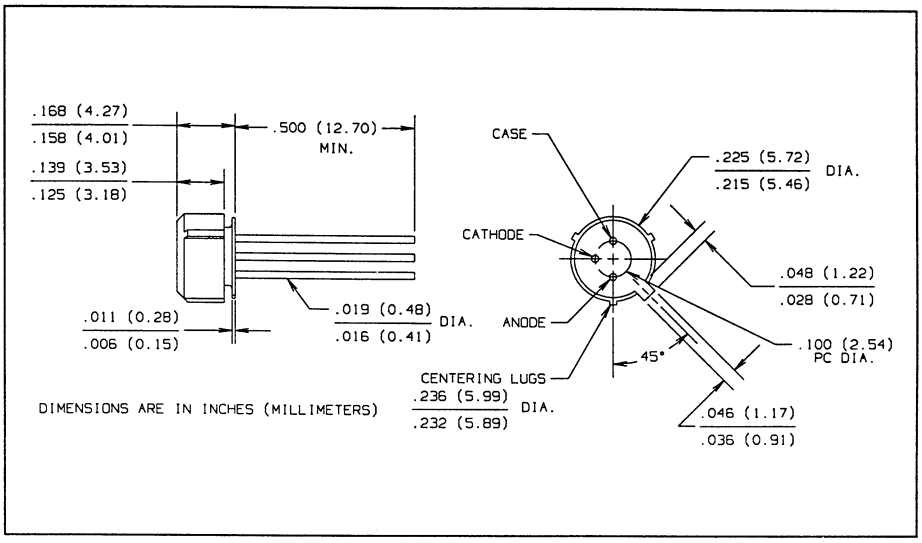
Fiber Optic PIN Photodiode
Type OPF470





Features

- Electrically isolated plastic cap package
- High speed, low capacitance
- Designed to self align in the 0.228 diameter bore of standard fiber optic receptacles
- Press fit simplifies component installation
- Optimized for fiber optic applications using 50 to 200 micron fiber

Description

The OPF470 is a low noise silicon PIN photodiode mounted in a low cost package for fiber optic applications. It offers fast response at moderate bias and is compatible with LED and laser diode sources in the 800-900 nm wavelength region. Low capacitance improves signal to noise performance in typical short haul LAN applications.

The PIN Photodiodes are designed to interface with multimode optical fibers from 50/125 to 200/300 microns.

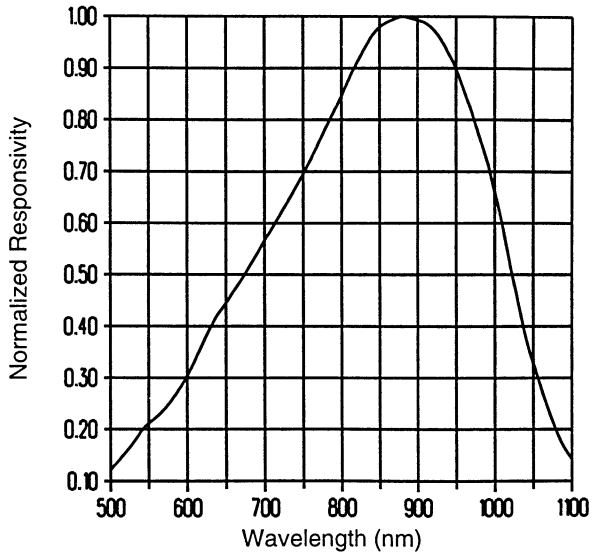
Absolute Maximum Ratings (T_A = 25° C unless otherwise noted)

Reverse Voltage	100 VDC
Continuous Power Dissipation	200 mW(1)
Storage Temperature Range	-55° C to +115° C
Operating Temperature Range	-40° C to +100° C
Lead Soldering Temperature [1/16 inch (1.6 mm) from case for 5 sec. with soldering iron]	240° C(2)

Notes:
(1) Derate linearly @ 2.0 mW/° C above 25° C.
(2) RMA flux is recommended. Duration can be extended to 10 sec. max when flow soldering.
(3) Test @ V_R = 5 V with 50/125 micron, 0.20 N.A. fiber, @ 10 µW optical power @ 850 nm. Responsivity levels apply to 50 µm, 62.5 µm and 100 µm core optical fibers.
(4) R_L = 50 Ω, 10%-90%

Typical Performance Curves

Relative Spectral Response



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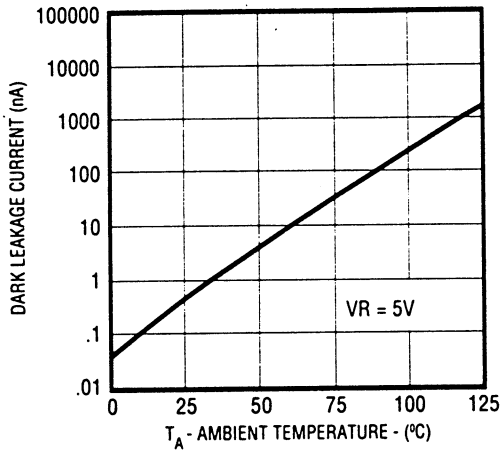
Electrical Characteristics (T_A = 25° C unless outherwise noted)

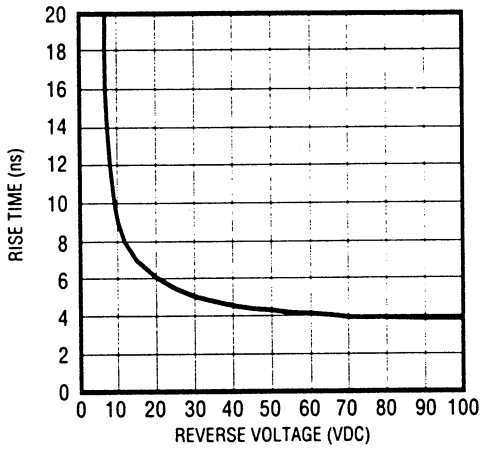
SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	TEST CONDITIONS
R	Flux Responsivity	0.45	0.55		A/W	V_R = 5.0 V(3)
I_D	Dark Current		0.1	5.0	nA	V_R = 5.0 V
λp	Peak Response Wavelength		880		nm	
t_r	Output Rise Time		6.0		ns	V_R = 15 V(4)
C_T	Total Capacitance		3.0		pF	V_R = 20 V
FoV	Field of View		80		Deg.	

TYPICAL PERFORMANCE CURVES

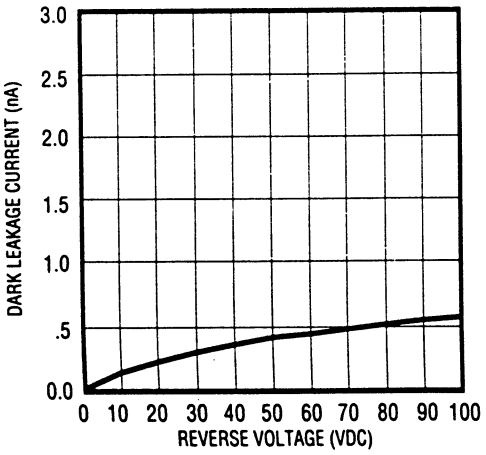
DARK LEAKAGE CURRENT vs. AMBIENT TEMPERATURE



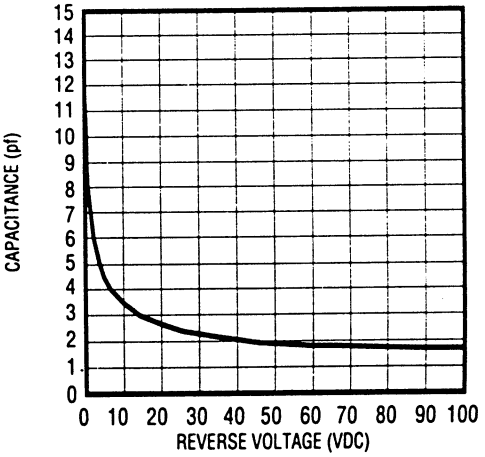
RISE TIME vs. REVERSE VOLTAGE



DARK LEAKAGE CURRENT vs. REVERSE VOLTAGE



TYPICAL CAPACITANCE vs. REVERSE VOLTAGE



FIBER OPTIC COMPONENTS