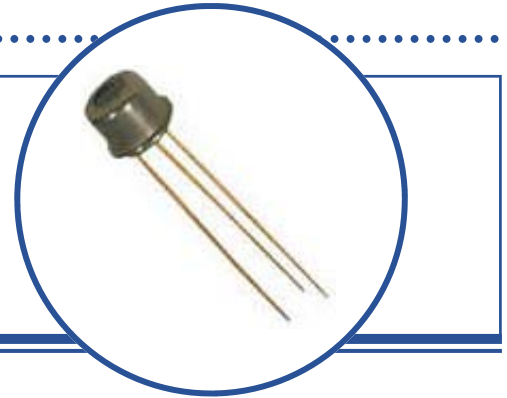


# Fiber Optic Detector

OPF420

## OPF420

- Electrically isolated plastic cap package
- High speed, low capacitance
- Metal can for improved noise immunity
- 35MHz operation minimum



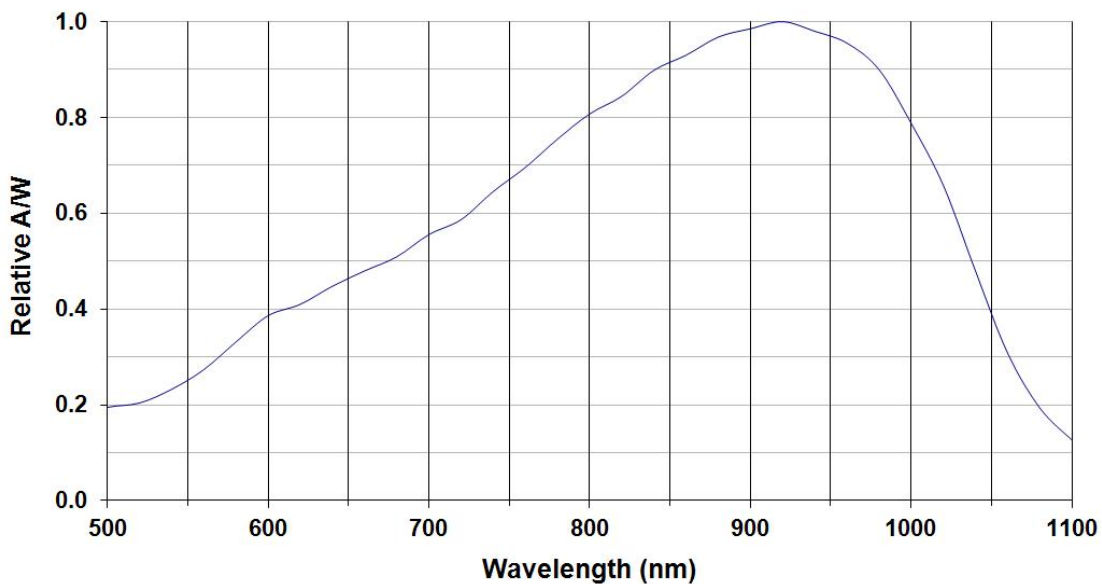
The OPF420 is a low noise silicon PIN photodiode mounted in a low cost package for fiber optic applications. It offers fast response at moderate bias and is compatible with LED and laser diode sources in the 800-1000 nm wavelength region. Low capacitance improves signal to noise performance in typical short haul LAN applications.

The OPF420 is designed to be compatible with multimode optical fibers from 50/125 to 200/300 microns.

## Applications

- ◆ Industrial Ethernet equipment
- ◆ Copper-to-fiber media conversion
- ◆ Intra-system fiber optic links
- ◆ Video surveillance systems

## Typical Responsivity



RoHS

OPTEK reserves the right to make changes at any time in order to improve design and to supply the best product possible.

### Absolute Maximum Ratings

$T_A = 25^\circ\text{C}$  unless otherwise noted

Storage Temperature Range	-65° C to +150° C
Operating Temperature Range	-55° C to +125° C
Lead Soldering Temperature <sup>(1)</sup>	260° C
Continuous Power Dissipation <sup>(2)</sup>	200 mW
Maximum Reverse Voltage	100 VDC

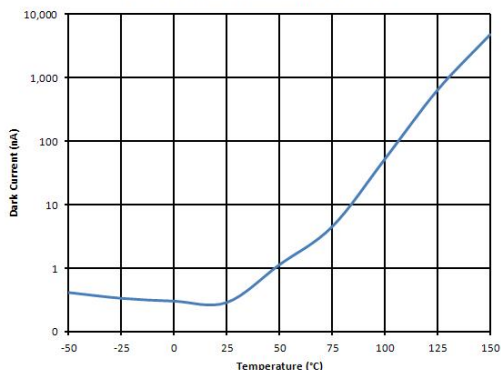
### Electrical/Optical Characteristics ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

SYMBOL	PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS
R	Responsivity	0.45	0.55		A/W	$V_R = 5.0\text{V}$ ; 50/125 $\mu\text{m}$ fiber; $\lambda = 850\text{nm}$
$I_D$	Dark Current		0.1	5.0	nA	$V_R = 5.0\text{V}$
$\lambda_p$	Peak Response Wavelength		905		nm	
$t_r$	Output Rise Time		6.0		ns	$V_R = 15\text{V}$ ; $R_L = 50\Omega$ , 10%-90%
$C_T$	Total Capacitance		3.0		pF	$V_R = 20\text{V}$
FoV	Field of View		80		deg	

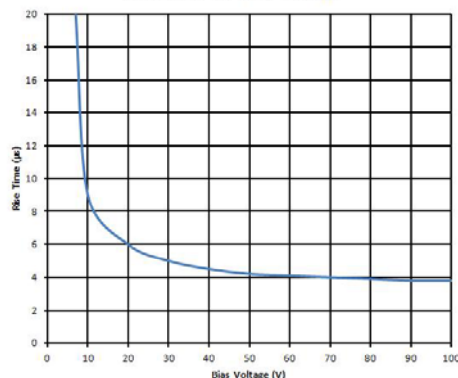
#### Notes:

- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- De-rate linearly at 1.60mW/°C above 25°C .

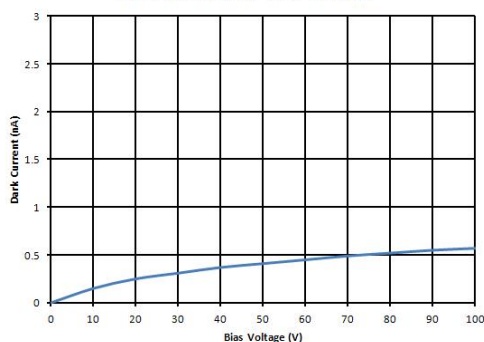
Dark Current vs. Temperature



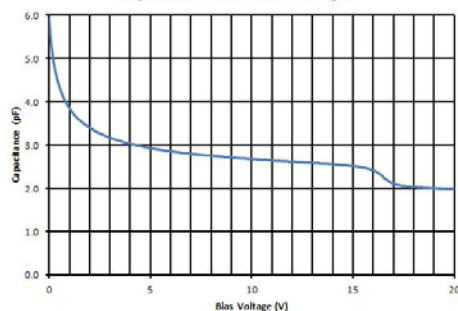
Rise Time vs. Bias Voltage



Dark Current vs. Bias Voltage

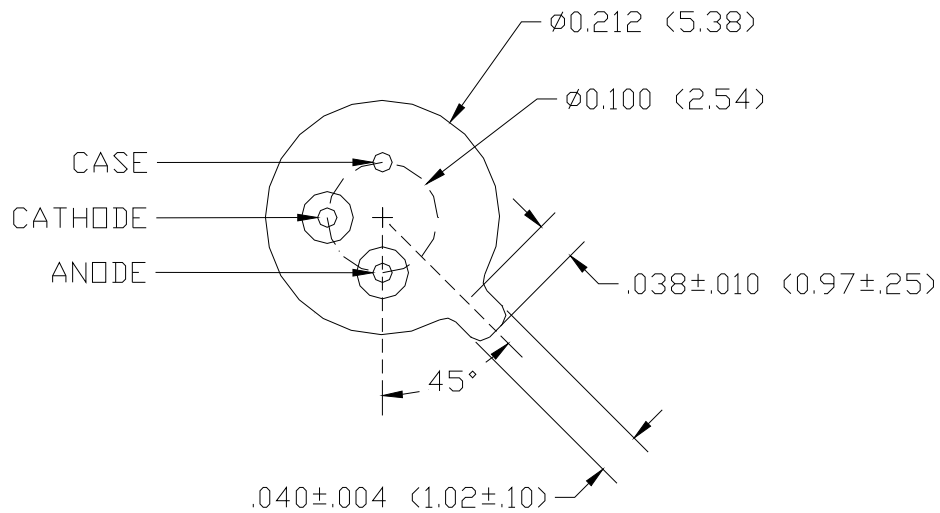
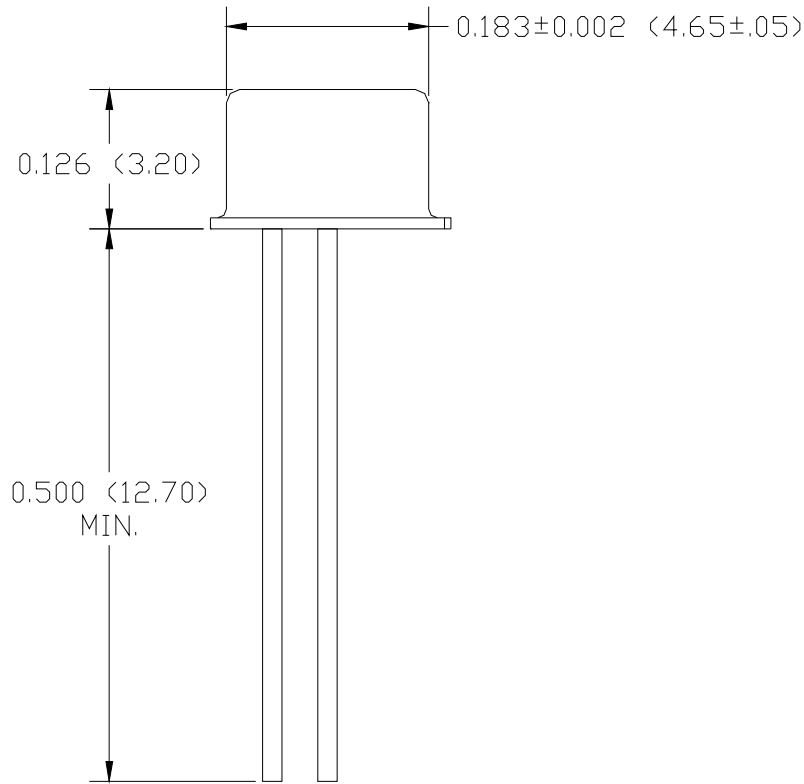


Capacitance vs. Bias Voltage



» in order to improve design and to supply the best product possible.

Mechanical Data



DIMENSIONS ARE IN INCHES (MILLIMETERS)

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