ABORN ELECTRONICS
AN OPTOELECTRONIC COMPANY

Fiber Optic PIN Diode

AFD 1200
AFD 2200
AFD 3200
AFD 5200

Optoelectronics Products

Description

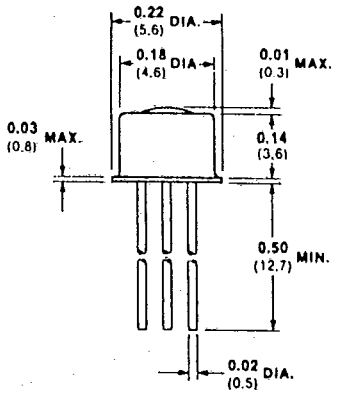
This sensor is a silicon planar PIN photodiode. It is an ultra-fast light detector, sensitive to light in the visible and near infrared part of the spectrum. Although these devices are packaged especially for fiber optics they may be used in many other optical applications. Due to the low capacitance of this device response times of less than 2 nanoseconds are possible. The low dark current allows for detection of low light levels. Under reverse bias these devices exhibit excellent linearity. Directly compatible with the Amp, Amphenol, and OFTI connector systems good EMI/RFI immunity can be achieved. Available in a TO-18 window can, plastic lensed cap, FOAC, and pig tailed packages.

* HIGH RESPONSIVITY (0.5 A/W)
* EXCELLENT LINEARITY
* BROAD SPECTRAL RESPONSE
* HIGH SPEED
* HIGH RELIABILITY
* LOW CAPACITANCE
* LOW NOISE
* HIGH NA OPTICAL PORT
* MAY BE USED WITH AFE XXXX EMITTERS
* LOW PROFILE IN RECOMMENDED CONNECTOR < .300" HIGH

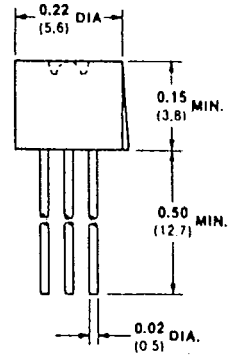
Absolute Maximum Ratings
(No Derating Required Up to 70°C)

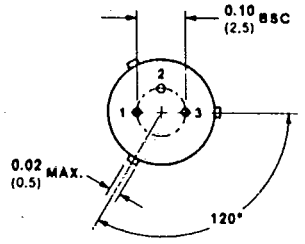
Maximum Temperature	
Operating Temperature	0°C to +70°C
Storage Temperature	−55°C to +125°C
Pin Temperature (Soldering, 10 s) (1.6 mm below seating plane)	260°C
Maximum Power Dissipation	
Power Dissipation Dissipation	100mW
Maximum Voltage	
V_R Reverse Voltage	20V

Package Outline



AFD 2200

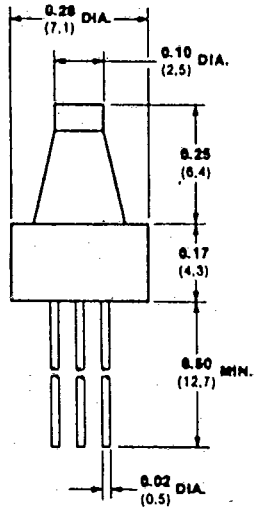


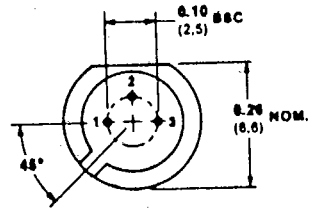


AFD 3200

AFD 1200

Dimensions: Inches (mm)



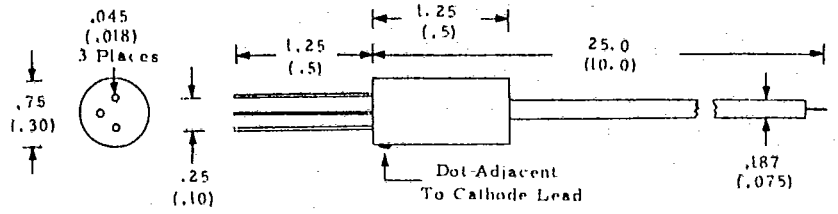


PIN 1 Vout
PIN 2 Vcc
PIN 3 GND

Dimensions: Inches (mm)

AFD 5200

MECHANICAL CHARACTERISTICS Dimentions Are Typical And In cm (Inch)



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ELECTRICAL/OPTICAL CHARACTERISTICS $T_A = 25^oC$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
A	Active Area		314		$mils^2$	
R	Responsivity		.5		A/W	λ= 820nm
I_D	Dark Current		1	10	nA	V_R= 10 V
NEP	Noise Equivalent Power		$5x10^{-14}$		W/VHz	λ= 820nm
C_j	Junction Capacitance		2		pf	V_R= 10 V
t_r, t_f	Rise Time, Fall Time		1	5	nS	V_R= 20 V, R_L= 50 Ω