

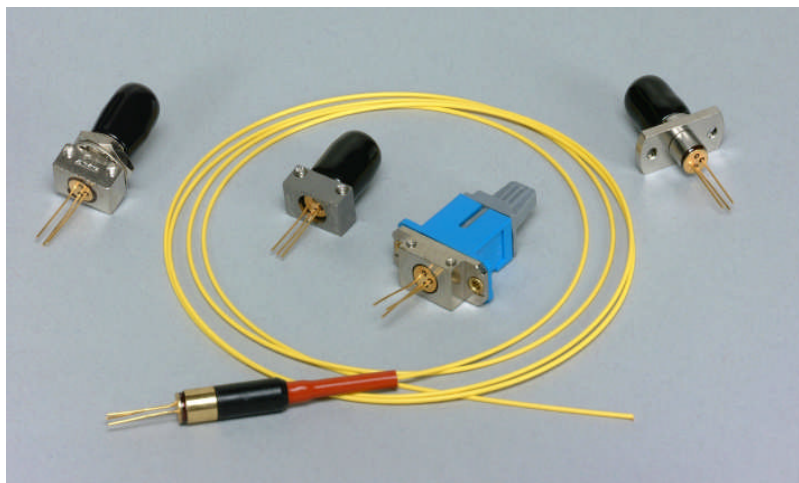
## Detectors for Fiber Optics: InGaAs Avalanche Photodiodes 80 $\mu\text{m}$

### InGaAs APDs

PD-LD Inc. offers low noise, high responsivity InGaAs Avalanche Photo Diodes (APD's) in convenient fiber coupled packages. These assemblies incorporate front-illuminated 80 micron diameter active area APD's that responds optimally to both 1310 and 1550 nm light sources.

Each module contains a semiconductor whose bandwidth is ideally suited to industry standard transmission rates from DC to 1.0GHz. The planar fabrication techniques used to create these semiconductors make them optimal for applications demanding high reliability receivers. For optimal performance with gains on the order of 10 to 15 they should be operated at voltage biases below breakdown.

These high reliability units may be operated and stored between  $-40$  and  $85^\circ\text{C}$ .



### Features

- InGaAs APD
- High Responsivity
- Low capacitance receivers
- High Gain, low Noise
- $-40$  to  $85^\circ\text{C}$  Operating Range
- FC, ST, SC Receptacle Housing
- Pigtailed w/9/125  $\mu\text{m}$  Fiber

### Applications

- SONET/SDH
- FTTH
- ONU Nodes
- High Frequency Test Equipment

Performance Specifications: Examples, Other Options Available

Parameter	Units	Symbol	Values
Operating Wavelength	nm	$\Lambda$	950 to 1650nm
Responsivity 1550nm fiber coupled, M=1	A/W	R	0.85 min
Analog Bandwidth (-3dB from 130MHz)M=10, 50Ohm load	GHz	$BW_e$	1.0 min
Total Dark Current M=10	nA	$I_d$	3 typ 15 max
Breakdown Voltage $I_d=10\mu\text{A}$	V	$V_b$	40 min 80 max
Capacitance, $V_{br}-1$ , M=10, f=1MHz	pF	C	0.8 typ 1.0 max
Dark Noise Current Density M=10	pA/Root Hertz	$J_n$	0.22typ
Temperature Coefficient	V / $^\circ\text{C}$	Delta T	0.15 typ
APD Reverse Current	mA	$I_r$	-1 max
Noise Equivalent Power ,1550nm	pW/Root Hertz	NEP	0.027 typ

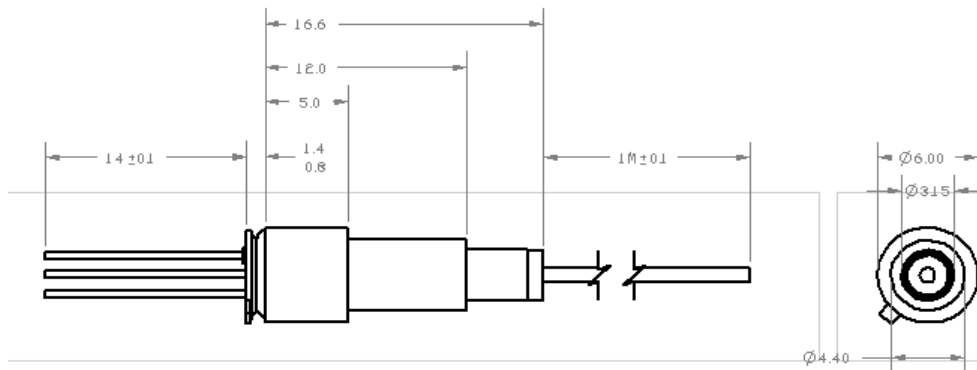
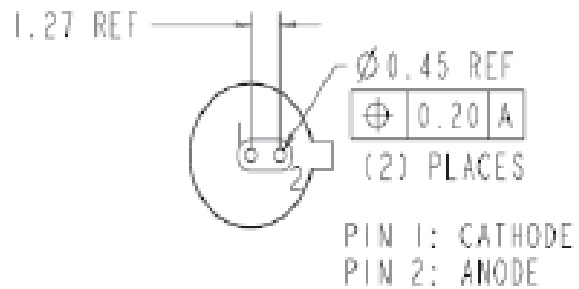


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## Packaging Options

These modules are available with either bare or connectorized fiber pigtailed or in receptacle style housings suitable for board or panel mounting. Receptacle mounted APDs are not available with LBR feature.

## Mechanical Specifications and PIN-OUT



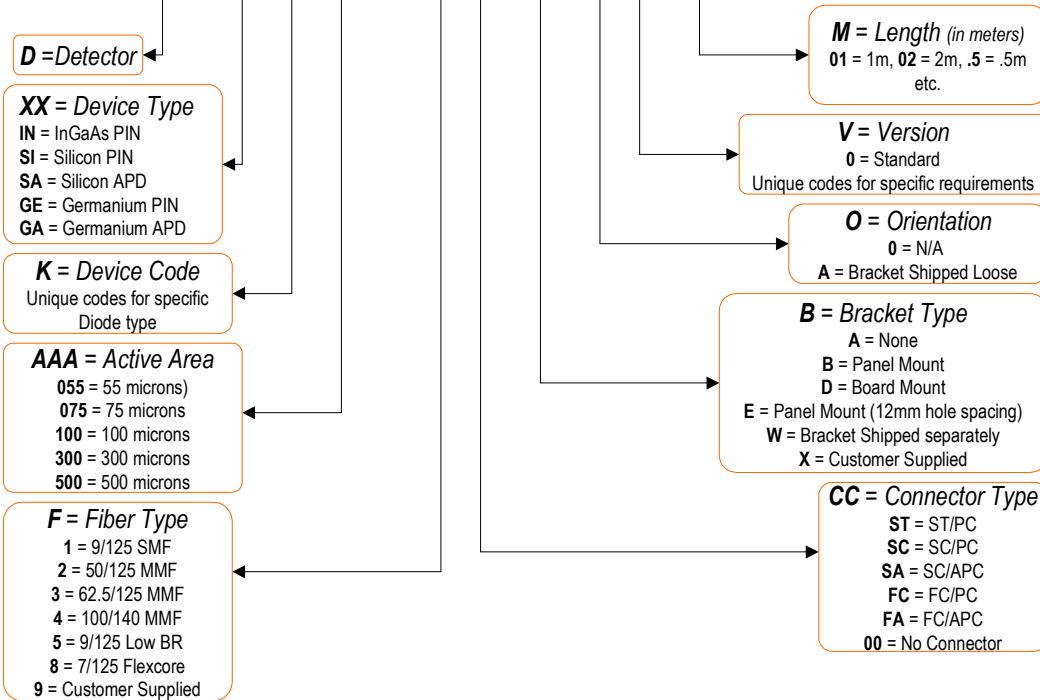


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## Ordering Information

### Data Legend: Pigtailed Photodiodes & APDs

PD XX K AAA F CC B-O-V-M



### Data Legend: Receptacle Photodiodes & APDs

PD XX K AAA RRR F-O-V

