

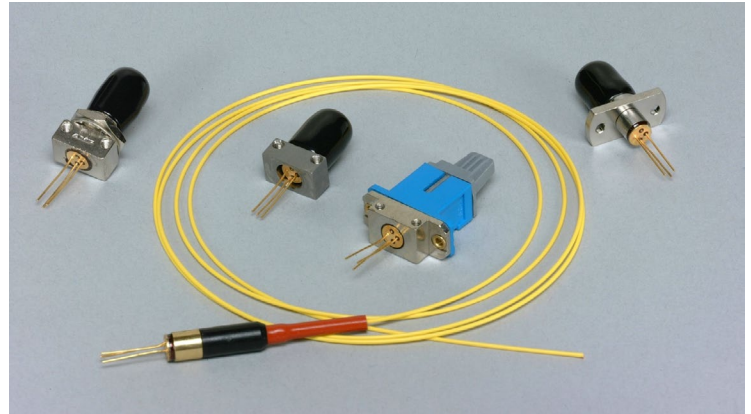
## PDINDK Series 75 um InGaAs APD

### InGaAs APD's

NECSEL IP offers low noise, high responsivity InGaAs Avalanche Photo Diodes (APD's) in convenient fiber coupled packages. These assemblies incorporate top-illuminated 75 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 2.0 GHz. 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 modules are available with either bare or connectorized fiber pigtailed. These high reliability units may be operated and stored between -40 and 85°C.



### Applications

- OTDR
- FTTH
- ONU Nodes
- High Frequency Test Equipment
- Low light receivers

### Features

- InGaAs APD
- High Responsivity
- Low capacitance receivers
- High Gain, low Noise
- -40 to 85°C Operating Range
- Pigtailed SMF or MMF Fiber

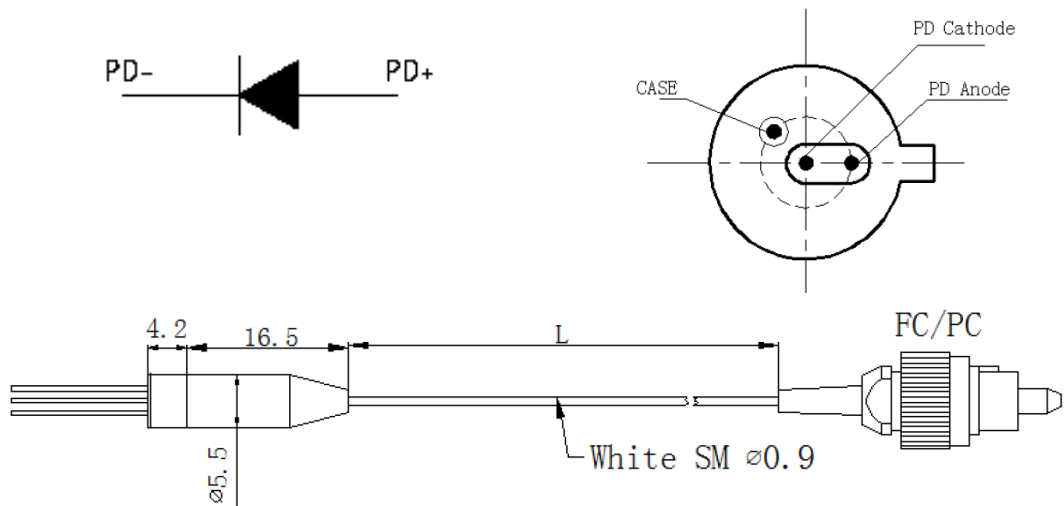
Parameter @25°C	Units	Symbol	Values
Operating Wavelength	nm	Lambda	950 to 1650nm
Responsivity 1550nm fiber coupled, M=1	A/W	R	0.90 min
Responsivity 1310nm fiber coupled M=1	A/W	R	0.80 min
Analog Bandwidth (-3 dB from 100 MHz) M=10, 50 Ohm load	GHz	BW <sub>e</sub>	2.0 min
Active Diameter	um	D	75 typ.
Total Dark Current M=10, Vr=0.9 Vb	nA	I <sub>d</sub>	1 typ 10 max
Breakdown Voltage I <sub>d</sub> =10uA	Vbr	V <sub>b</sub>	35 min 50 max
Capacitance Chip, V <sub>br</sub> -0.9, M=10, f=1MHz	pF	C	0.6 typ 1.0 max
Temperature Coefficient of V <sub>br</sub>	V / °C	Delta T	0.09 typ
APD Reverse Current	mA	I <sub>r</sub>	3 max
Maximum Multiplication Factor 1310nm		M max	25

Specifications at 25°C and are subject to change without notice.

12-23 InGaAs 75 APD.Rev.8

## PDINDK Series 75 um InGaAs APD

### Mechanical Specifications and PIN-OUT



#### Pigtailed Assembly Part Number Examples

PDINDK075300A-0-0-1	1m long 62.5/125/900um MMF pigtail, no connector
PDINDK0753SCD-A-0-0-1	1m long 62.5/125/900um MMF pigtail, SC/PC connector, pcb mount flange
PDINDK0753FAB-A-0-0-1	1m long 62.5/125/900um MMF pigtail, FC/APC connector, panel mount flange
PDINDK0752FCA-0-0-0-1	1m long 50/125/900um MMF pigtail, FC/PC connector
PDINDK075100D-A-0-0-1	1m long 9/125/900um SMF pigtail, no connector, pcb mount flange
PDINDK0751FAA-0-0-0-1	1m long 9/125/900um SMF pigtail, FC/APC connector

#### Fiber Pigtailed Devices

### PDINDK075FCCB-O-V-MM

**D= Detector**      **IN= InGaAs**

**075= Diameter (um)**

**RRR = Receptacle**  
**FC1 = FC Panel Mount**  
**FC2 = FC Board Mount**  
**ST1 = ST**  
**ST2 = ST low profile**  
**SC1 = SC**

**B=Bracket Type (pigtail only)**  
**A = None**  
**B = Panel Mount**  
**D = Board Mount**  
**X = Customer Supplied**

**DK075 = 75 um APD**

**F = Fiber Type**  
**1 = 9/125/900 SMF**  
**2 = 50/125 MMF**  
**3 = 62.5/125 MMF**  
**5= 9/125/900 LBR**  
**9 = Supplied by customer**

**O= Lead Orientation**  
**0=N/A**  
**T= Grnd at 6:00**  
**V= Version**  
**0=standard**

#### Receptacle Mounted Device

### PDINDK075RRRF-O-V

**CC = Connector Type**  
**ST = ST**  
**SC = SC**  
**SA = SC/APC**  
**FC = FC PC**  
**FA = FC/APC .**  
**00 = No Connector**

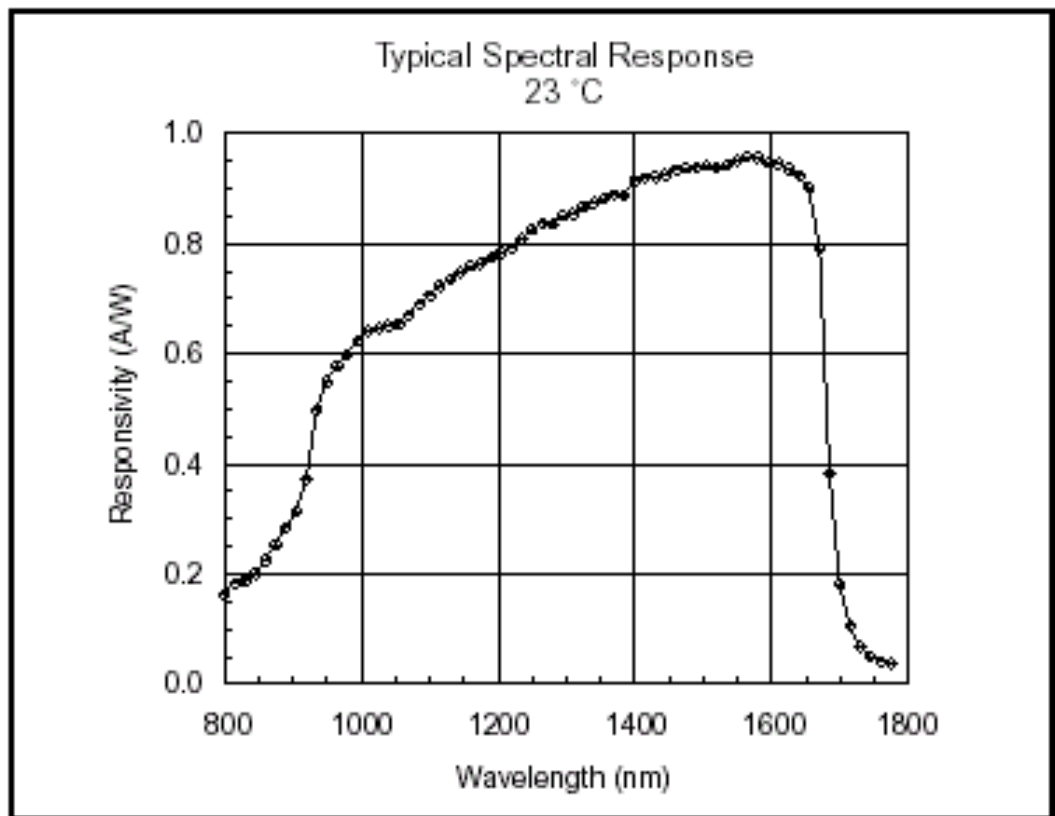
**M = Length in meters (pigtail only)**  
**10 = 10meter**  
**03 = 3 meters**  
**01 = 1 meter**  
**.3 = 0.3 meters**  
**.5 = 0.5 meters**

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### PDINDK Series 75 um InGaAs APD

InGaAs APD Absolute Maximum Ratings (Tc=25°C)			
Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	60	V
Forward Current	I <sub>F</sub>	3	mA
Operating Temperature	T <sub>OPR</sub>	-40 to 85	°C
Storage Temperature	T <sub>STR</sub>	-40 to 85	°C
Soldering Temperature		260/10	°C/sec



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