

Pigtailed / Receptacle PD TPP4NN3 / TCP4NN3 series



- Long wavelength InGaAs PIN-PD
- Detection wavelength range of 1.1 μ m to 1.6 μ m
- MMF or SMF Pigtailed
- SC or FC Connector

Family Model

TPP4NN3

TCP4NN3

Features

- InGaAs long wavelength PIN photodiode
- Operation at 1310nm & 1550nm
- High responsivity, low dark current and low capacitance
- Operating temperature ; 0 $^{\circ}$ C to +70 $^{\circ}$ C/-40 $^{\circ}$ C to +85 $^{\circ}$ C
- Single-mode fiber or multimode fiber pigtailed with SC or FC connector

Description

The TPP4XX3 series is a reliable InGaAs PIN photodiode module pigtailed with MMF or SMF. The parts of pigtailed PD module – single-mode fiber, lens and photodiode - are actively aligned by high power YAG laser welding method. This packaging guarantees high detector responsivity and low deviation over a wide temperature range(0 $^{\circ}$ C to +70 $^{\circ}$ C/-40 $^{\circ}$ C to +85 $^{\circ}$ C), and provides high optical performance for ITU-T G.651 and G.652 standard optical fiber..

Applications

Used in telecommunication and data communication systems, from medium to high speed for intra-office, short-haul inter-office and long-haul inter-office applications.

- Intra-office and Inter-office SONET/ITU-T SDH
- Fiber in the loop(FTTO, FTTC, FTTH etc.)
- Transport links (SDH,SONET, PDH)
- Subscriber loops
- Private optical networks

Absolute Maximum Ratings

Parameters	Symbol	Unit	Min.	Max.	Remarks
Ambient Operating Temperature	T_{op}	°C	0 -40	70 85	Indoor use Outdoor use
Storage Temperature	T_{stg}	°C	-40	85	
Reverse Voltage	V_{RP}	V	-	15	
Reverse Current	I_{RP}	mA	-	3	
Forward Current	I_{FL}	mA	-	50	
Lead Soldering Temp./Time		°C/sec		260/10	

Electrical & Optical Characteristics(T_{op} = 25°C)

Parameters	Symbol	Condition	Unit	Min.	Typ.	Max.	Remark
Detection range	λ	$V_R=5V, R>0.75$	μm	1.1		1.6	
Responsivity	R	$V_R=5V, \lambda=1.3\mu m$ $V_R=5V, \lambda=1.5\mu m$	A/W	0.80 0.85	0.85 0.90		
Dark Current	I_D	$V_R=5V$	nA			1.0	
Cut-off Frequency	f_c	-3dB, $V_R=5V$	GHz	3.0			$R_L=50\Omega$
Reverse Breakdown Voltage	V_{BD}	$V_R=5V, I_{RD}=1\mu A$	V	25			
Capacitance	C	$V_R=5V, f=1MHz$	pF			1.0	
Active Area Diameter	\varnothing		μm		70		for 5GHz

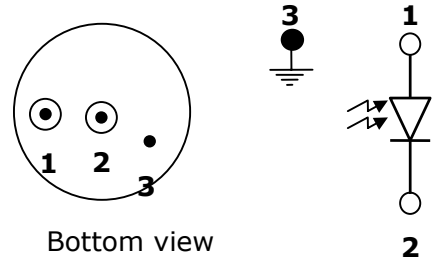
! Handling Caution

The Photo-diode can be damaged by overvoltage and current surges. Precautions should be taken for transient power supply.

This device is susceptible to damage as a result of electrostatic discharge(ESD). Take proper precautions during both handling and testing

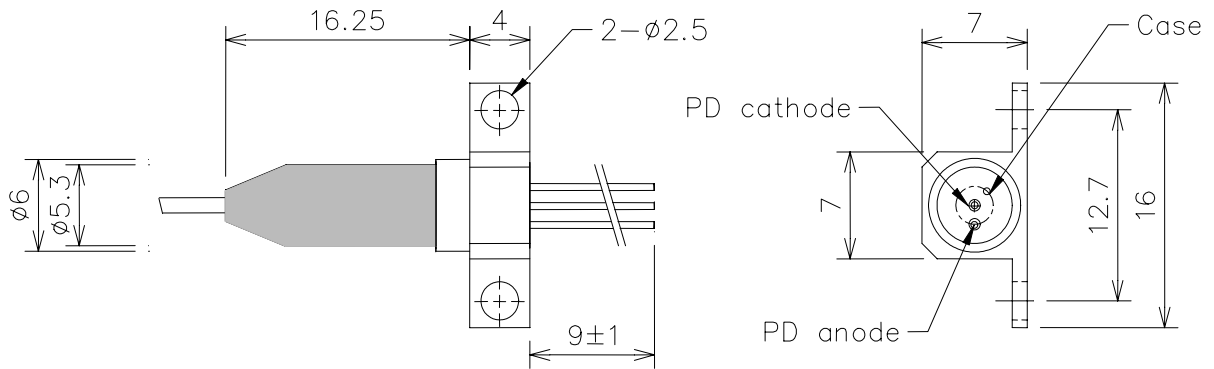
Pin Description

Pin No.	Symbol	Description
1	A _{PD}	PD anode
2	K _{PD}	PD cathode
3	GND	Case ground

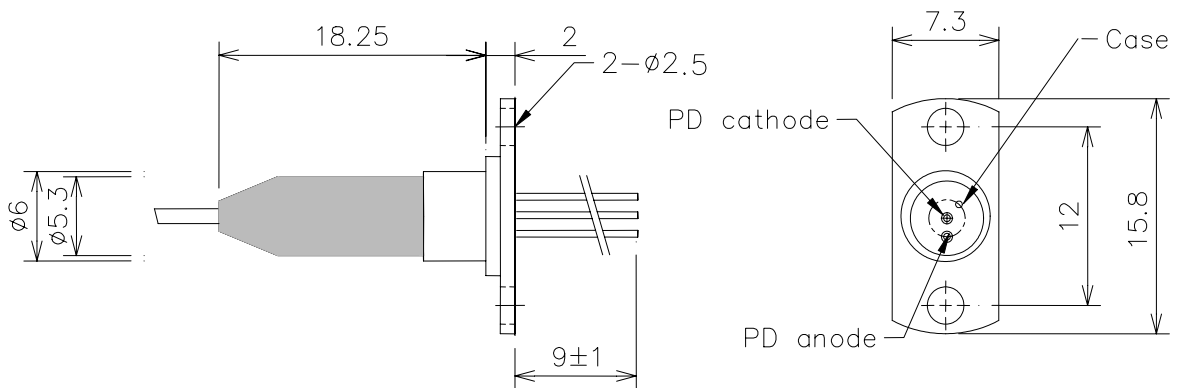


Outline Diagram

- TPP4xx3-xxxH



- TPP4xx3-xxxV



- TPP4xx3-xxxN

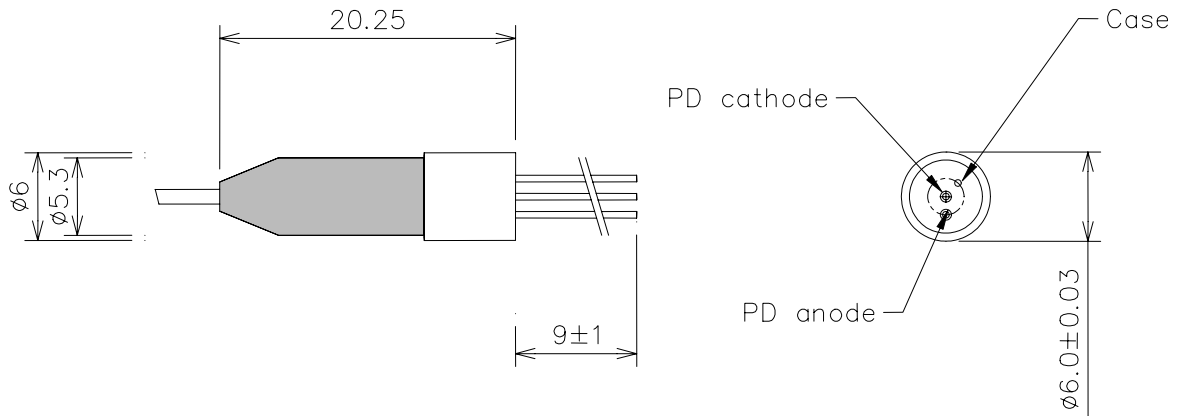


Fig.1 Pigtailed PD Package Dimensions [unit: mm]

- TCP4xxx-xxxV

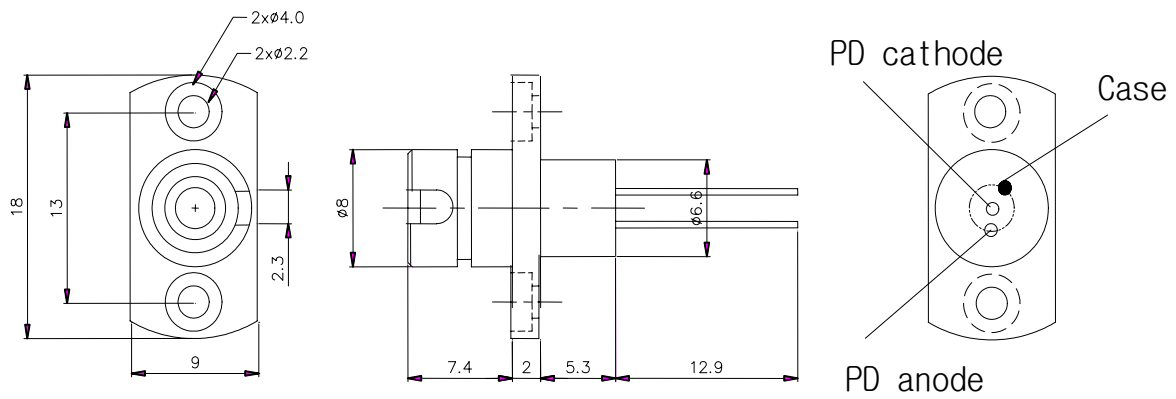


Fig.2 Receptacle PD Package Dimensions [unit: mm]

Ordering Information

Company	Device Type		Wave-length	Data rate (PIN-TIA)	Volt. (TIA)	Pin	Temp. Range	Fiber	Connector	Flange
T	P	P	4	N	N	3	I	S	N	H
Teradian	P ;PD Pigtail C ;PD Receptacle	P ;PIN T ;PIN-TIA A ;APD	4 ; 1.3/1.5 8 ; 850nm	N ; None 0 ; 51Mbps 1 ;155Mbps 4 ;622Mbps 8 ;1.25Gbps G ;2.5Gbps	N ; None 3 ;3.3V 5 ;5V	3 ;3pin 4 ;4pin (differential) 5 ;5pin 6 ;4pin (single ended)	I ;Indoor Use (0~70℃) O ;Outdoor Use (-40~85℃)	S ;SMF M ;MMF	N ;None S ;SC F ;FC T ;ST L ;LC	N ; None V ; Vertical H ; Horizontal

*Note 1 ;

- 220m with 62.5/125μm MMF @1.25Gbps
- 500m with 50/125μm MMF @1.25Gbps
- 200m with 62.5/125μm MMF @2.125Gbps

*Note 2 ; additional order information

- Connector type default is SC/PC and the default length of fiber is 1m
- In case of ordering pigtailed Bi-Di Transceiver, please specify specs. clearly if not default.

More Information

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