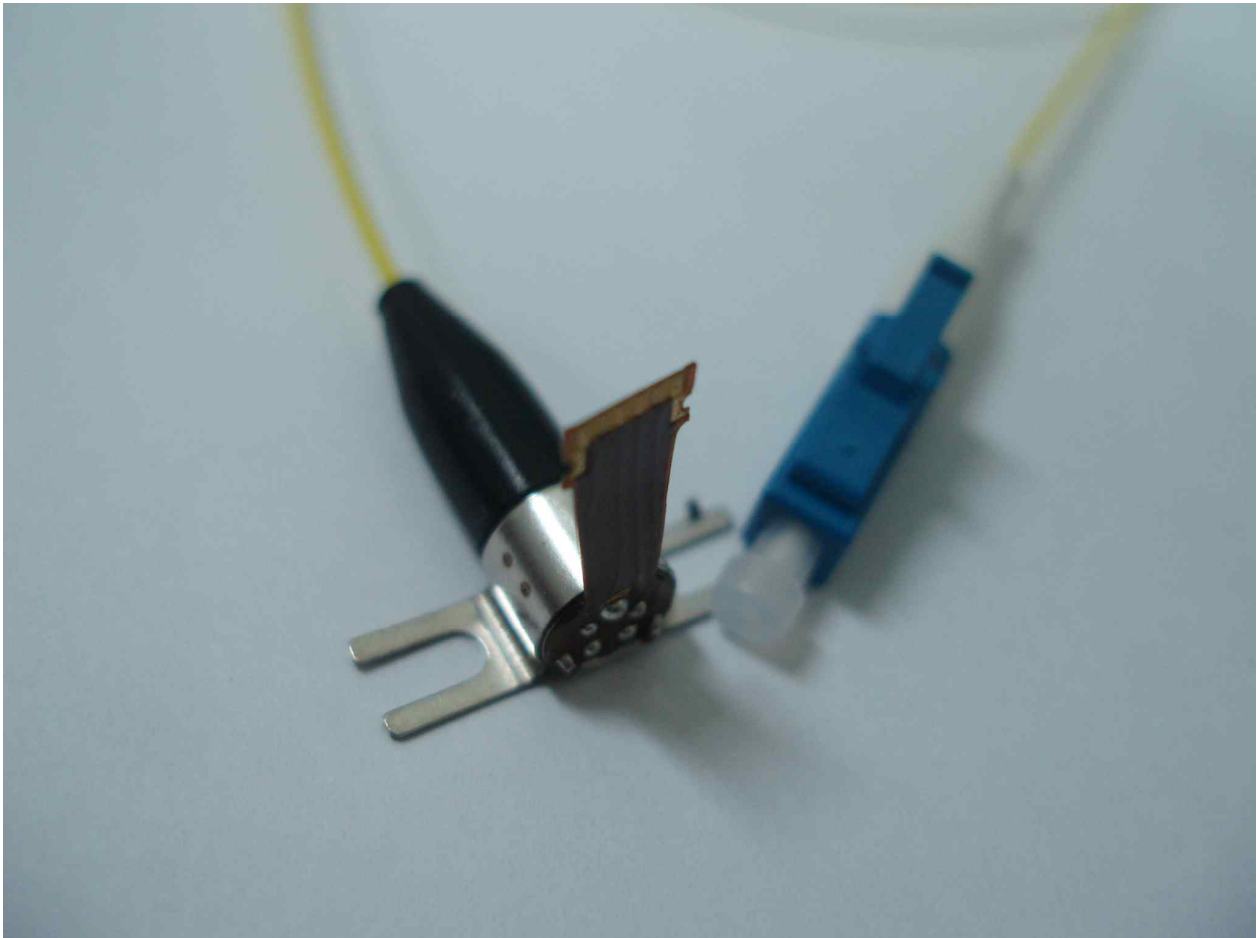


*Wooriro Photo Diode*

***WOORIRO 10Gbps PIN PIGTAIL  
SPECIFICATIONS***



*Contents*

**General Description** ..... 3

**Absolute Maximum Ratings** ..... 3

**Electro-Optical Characteristics** ..... 4

**Mechanical Dimension & FPCB Layout** ..... 5

**Other Requirements** ..... 6

**General Description**

The 10Gbps PIN Pigtailed type is a low cost receiver module with a miniaturized size for using in the 300pin MSA optical transceiver and is assembled with Optical Fiber by high power Nd-YAG laser welding method. It guarantees high sensitivity and its low deviation over an operating temperature range.

**Features**

- InGaAs PIN PD chip for 10Gbps
- High gain 4kΩ transimpedance pre-amplifier for 10Gbps
- XMD-MSA compliant FPCB ROSA
- Operation at 1270nm and 1620nm
- Differential data output
- High sensitivity: typ. -19dBm
- Telcordia™ qualified

**Applications**

- Digital fiber optic receiver in short, medium and long haul optical telecommunications transmission systems and in high speed optical data networks
- SONET
- Ethernet
- Fiber Channel
- 300pin MSA optical transceiver

**Absolute Maximum Ratings**

Parameter	Symbol	Rating	Unit
TIA supply voltage	V <sub>CC</sub>	-0.5 to +4	V
PIN reverse voltage	V <sub>PD</sub>	0 to +20	V
PIN reverse current	I <sub>PD</sub>	10	mA
Operating case temperature range	T <sub>C</sub>	-10 to +85	°C
Storage temperature range	T <sub>STG</sub>	-40 to +85	°C

Table 1. Absolute Maximum Ratings

### Electro-Optical Characteristics

Inspection sheet shall be appended to products when they are delivered. Test report shall be submitted in papers and in electronic media. It shall contain the major in following items.

#### Optical Characteristics(Tc=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Responsivity	R	$\lambda = 1550\text{nm}$	0.85			A/W
Optical wavelength range	$\lambda$	-	1270		1620	nm
Sensitivity	$P_S$	9.95Gbps NRZ, PRBS= $2^{31}-1$ , BER= $1 \times 10^{-12}$ , ER=11.3dB, $\lambda=1550\text{nm}$		-19	-18	dBm
Maximum overload	$P_{MAX}$	9.95Gbps NRZ, PRBS= $2^{31}-1$ , BER= $1 \times 10^{-12}$ , ER=11.3dB, $\lambda=1550\text{nm}$			0	dBm

Table 2. Optical Characteristics

#### Electrical Characteristics(Tc=25°C)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
TIA supply voltage	$V_{CC}$	-	3.1	3.3	3.5	V
TIA supply current	$I_{CC}$	-	43	55	73	mA
Dark current	$I_D$	$V_R=5V$		0.1	1	nA
Transimpedance	$Z_T$	Differential ( $50\Omega$ on each output), $f=100\text{MHz}$	2.3	4	5.7	$k\Omega$
O/E bandwidth	$F_{CH}$	-3dB, Pin=-20dBm		9		GHz
Low cut-off frequency	$F_{CL}$	-		24	52	kHz
Maximum output voltage	$V_{OUT}$	Single-ended	-	130	-	$\text{mV}_{p-p}$
Output impedance	$Z_O$	Single-ended		50		$\Omega$

Table 3. Electrical Characteristics

### Mechanical Dimension & FPCB Layout

#### Mechanical Dimension

(unit : mm)

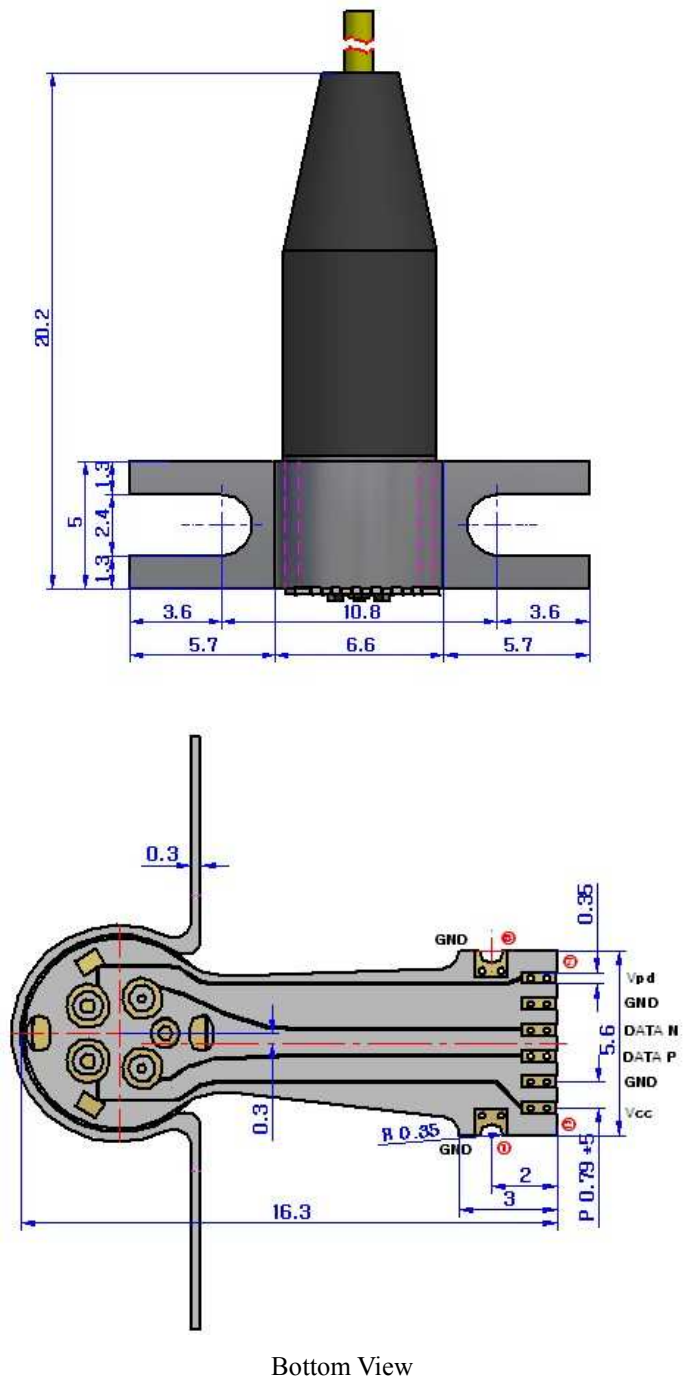


Figure 1. Mechanical Dimension

### Pin Configuration

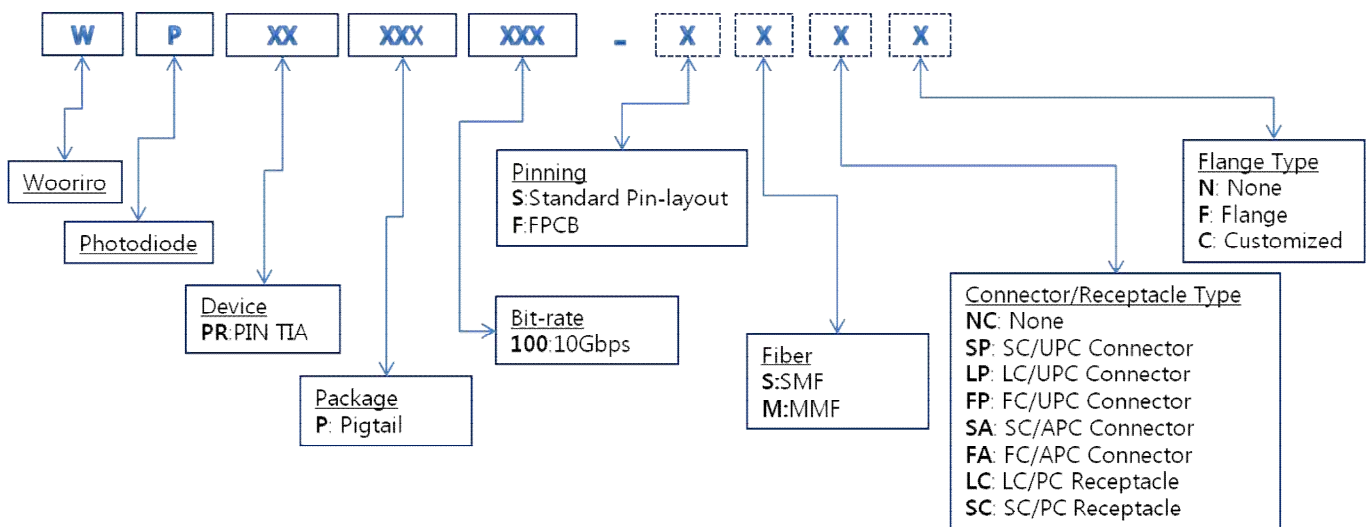
No.	Symbol	I/O	Description
1	GND	I/O	Not internal connection
2	V <sub>CC</sub>	I	TIA Supply voltage
3	GND	I/O	Signal ground
4	Data P	O	Positive data output
5	Data N	O	Negative data output
6	GND	I/O	Signal ground
7	V <sub>PD</sub>	I	PD bias voltage
8	GND	I/O	No internal connection

### Other Requirements

#### Precautions for use

This device is susceptible to damage as a result of ESD(electrostatic discharge). Use of ground straps, anti static mats, and other standard ESD protective equipment is recommended when handling or testing an InGaAs PIN/APD or any other junction photodiode. Soldering temperature of the leads should not exceed 350 °C for more than 10 seconds.

### Ordering Information



Ex) WPPRP100-FSLPF:

10G PIN TIA Pigtailed ROSA with FPCB & Flange (SMF , LC/UPC Connector).