

## 2.5Gb/s APD TIA Pigtailed ROSA

WPARP025KSSPNH

### Features

- Standard TO-46 package with hermetic sealing
- High sensitivity TIA with automatic gain control
- Application: APD long reach receiver module for 2.5Gb/s

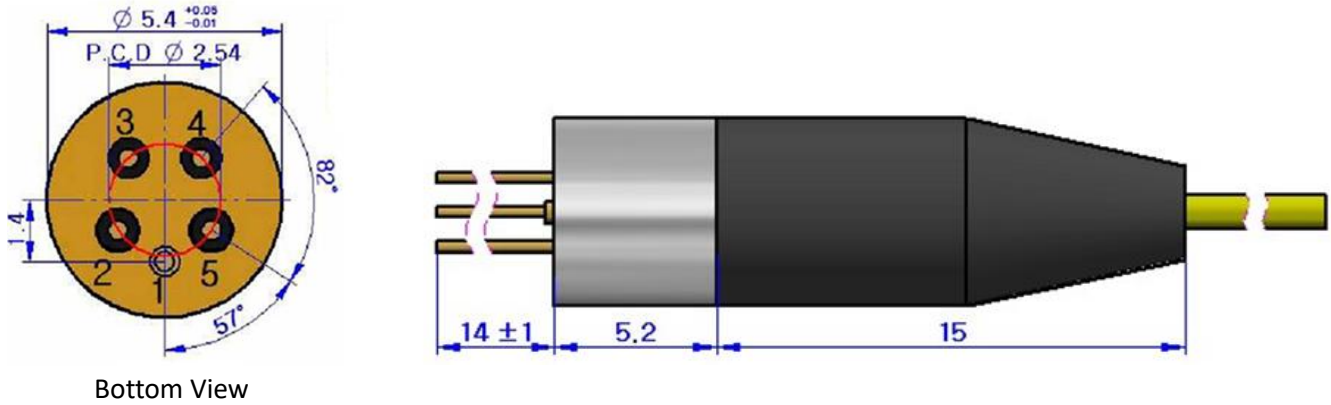
### Absolute Maximum Ratings (Ta = 25 °C unless otherwise specified)

Parameters	Symbol	Rating	Unit
TIA supply voltage	$V_{CC}$	-0.5 to 4.5	V
APD supply voltage	$V_{APD}$	0 to $V_{BR}$	V
APD reverse current	$I_{APD}$	2	mA
Operating case temperature range	$T_C$	-40 to +85	°C
Storage temperature range	$T_{STG}$	-40 to +85	°C

### Electro-Optical Characteristics (Ta = 25 °C unless otherwise specified)

Parameters	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Responsivity	R	@ M=1, 1310nm	0.8	0.9		A/W
		@ M=1, 1550nm	0.9	1.0		
Dark current	$I_d$	0.9 $V_{BR}$		10	50	nA
Optical Wavelength Range	$\lambda$	-	1260		1640	nm
Sensitivity	$P_S$	2.5Gbps NRZ, PRBS=2 <sup>23</sup> -1, BER=1×10 <sup>-10</sup> , ER=10dB, $\lambda$ =1550nm		-35	-33.5	dBm
Overload	$P_{MAX}$	2.5Gbps NRZ, PRBS=2 <sup>23</sup> -1, BER=1×10 <sup>-10</sup> , ER=10dB, $\lambda$ =1550nm	2			dBm
TIA Supply Voltage	$V_{CC}$	-	3.0	3.3	3.6	V
TIA Supply Current	$I_{CC}$	-	15	20	24	mA
Transimpedance	$Z_T$	Differential(50Ω on each output), f=100MHz	5.7	7.7	9.0	kΩ
Breakdown Voltage	$V_{BR}$	Dark current, $I_d$ =10μA	35	46	56	V
Low Frequency Cut-off	$f_{CL}$	-		30		kHz
Output Voltage	$V_{OUT}$	Differential		140		mV <sub>p-p</sub>
Output Impedance	$Z_O$	Single-ended		50		Ω
Temperature Coefficient of $V_{BR}$	$\gamma$	Operating case temperature	0.08	0.1	0.12	V/°C

**Mechanical Dimension (unit: mm)**



**Pin Configuration**

No.	Pin name	Type	Description
1	GND	Ground	Ground
2	DATA	RF+ output	TIA positive output
3	V <sub>CC</sub>	Power	TIA supply voltage
4	V <sub>APD</sub>	Power	APD supply voltage
5	$\overline{\text{DATA}}$	RF- output	TIA negative output

**Ordering information**

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<p><u>Connector type</u>                  NC : None                  SP : SC/PC                  LP : LC/PC                  FP : FC/PC                  SA : SC/APC                  LA : LC/APC                  FA : FC/APC</p>
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Wooriro Co., Ltd.  
 Tel: +82-62-602-8100  
[www.wooriro.com](http://www.wooriro.com)  
[support@wooriro.com](mailto:support@wooriro.com)

Specifications described here are subject to change without notice