

# 10Gbps APD TO with Burst-mode TIA

WPAPB100SNNCNG1

## Features

- Standard TO-46 package with aspherical lens cap
- Application : IEEE 802.3av 10G-EPON OLT

## Absolute Maximum Ratings

Parameters	Symbol	Rating	Unit
TIA supply voltage	$V_{CC}$	-0.5 to +4	V
APD supply voltage	$V_{APD}$	0 to $V_{BR}$	V
APD reverse current	$I_{APD}$	2.5	mA
APD damage level	$L_D$	-5	dBm
Operating case temperature range	$T_C$	-40 to +85	°C
Storage temperature range	$T_{STG}$	-40 to +85	°C

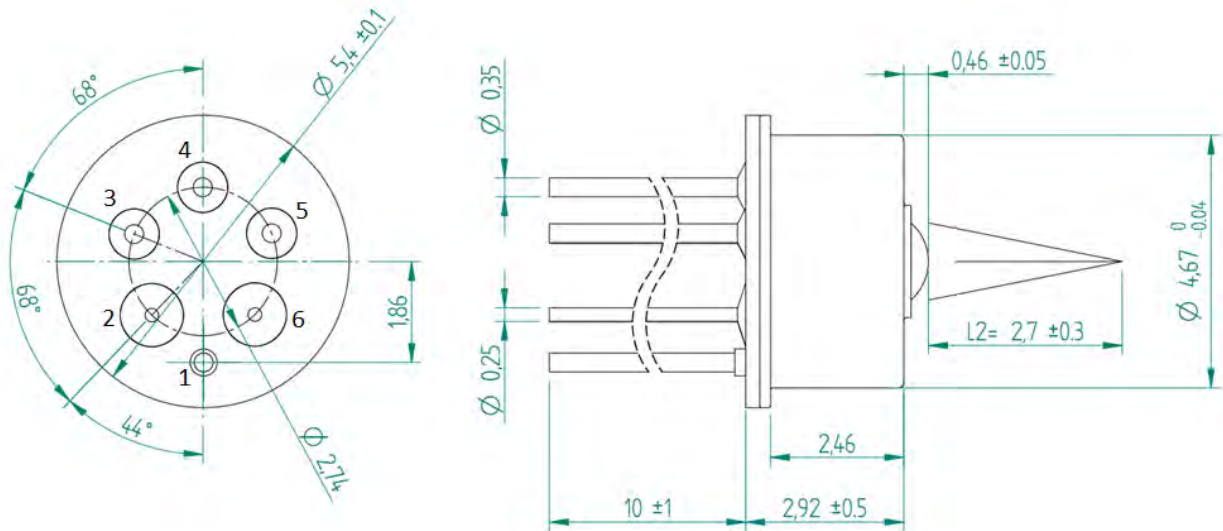
## Electro-Optical Characteristics (Typical values are at 25 °C)

Parameters	Symbol	Test Condition	Min.	Typ.	Max.	Unit
TIA supply voltage	$V_{CC}$	-	2.97	3.3	3.63	V
TIA supply Current	$I_{CC}$	$V_{CC}=3.3V$		40		mA
Transimpedance	$Z_T$	Differential (50Ω on each output)		2		kΩ
APD Breakdown voltage	$V_{BR}$	$I_d=10\mu A$	23	27	31	V
APD dark current	$I_d$	$0.9 V_{BR}$			500	nA
Sensitivity	$P_S$	CM* 10.3125Gbps NRZ, PRBS=2 <sup>31</sup> -1, BER=1E-3, ER=5.97dB, λ=1310nm		-32	-31	dBm
Overload	$P_{MAX}$		-5			dBm
Temperature coefficient of $V_{BR}$	$\gamma$	Operating case temperature		20		mV/°C
Optical Wavelength Range	$\lambda$	-	1260		1640	nm
Responsivity	R	λ=1310nm, Pin=50uW, Vapd=0.95VB	9	10.5		A/W

\* Be measured at continuous mode, not burst mode

**Mechanical Dimension**

(unit : mm)



**Pin Configuration**

No.	Pin name	Type	Description
1	GND	Ground	Signal ground
2	Data P	RF output	TIA Positive output
3	V <sub>CC</sub>	Power	TIA Supply voltage
4	V <sub>APD</sub>	Power	APD bias voltage
5	Rate	Logic input	Defining data rate of input burst: - Lo : 1.25Gbps operation - Hi : 10.3125Gbps operation
6	Data N	RF output	Negative data output

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