

# 10Gbps InGaAs APD-TIA TO-CAN

**Model: AAIT010GT05XX-A-1**



## Features:

- Optical Communication
- 10G EPON ONU
- InGaAs Avalanche Photodiode(APD) with Trans-Impedance Amplifier(TIA)

## Product Specifications:

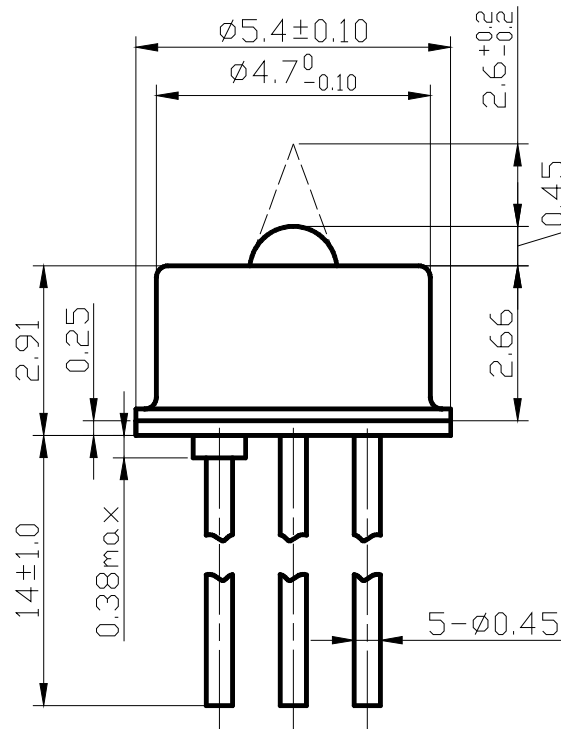
Absolute Maximum Ratings(T=25°C)

Parameter	Symbol	Unit	Min	Max	Note
APD Reverse Current	I <sub>r</sub>	mA		2	
APD Reverse Voltage	V <sub>r</sub>	V		V <sub>br</sub>	
Power Supply Voltage	V <sub>P</sub>	V	-0.4	4	
Operating Temperature	T <sub>OP</sub>	°C	-5	75	
Storage Temperature	T <sub>syg</sub>	°C	-40	100	
Solder Reflow Temperature	T <sub>slid</sub>	°C		260	10 seconds max

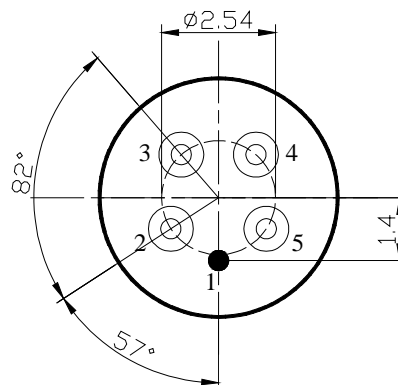
Electro-Optical Characteristics(T=25°C, unless noted otherwise)

Parameter	Symbol	Unit	Min	Typ	Max	Test Condition
Supply Voltage	V <sub>cc</sub>	Volts	3.0	3.3	3.6	
Supply Current	I <sub>CC</sub>	mA	—	27	34	No load
Breakdown Voltage	V <sub>br</sub>	V	20	—	40	I <sub>d</sub> =10μA, V <sub>cc</sub> off
Dark Current	I <sub>d</sub>	nA	—	—	300	V <sub>r</sub> =V <sub>br</sub> -3
Wavelength Range	λ	nm	1250	—	1650	
Saturated Optical Power	P <sub>sat</sub>	dBm	-6	—	—	10.3Gb/s, ER=6.4, BER=10 <sup>-3</sup> , PRBS=2 <sup>31</sup> -1, V <sub>r</sub> =V <sub>br</sub> -3
Responsibility	R	A/W	—	0.8	—	λ=1550nm, M=1
-3dBm Bandwidth	BW	GHz	8	—	—	R <sub>L</sub> = 50 Ω, M=10, P <sub>in</sub> =-30dBm
Sensitivity	Sen	dBm	—	—	-30.0	10.3Gb/s, ER=6.4, BER=10 <sup>-3</sup> , PRBS=2 <sup>31</sup> -1, V <sub>r</sub> =V <sub>br</sub> -3

**Outline Drawings (in mm):**



**PIN-OUT**



Bottom View

Pin-out Assignment	
Number	"05"
1	Gnd
2	DOUT(+)
3	V <sub>CC</sub>
4	V <sub>APD</sub>
5	DOUT(-)



***Ordering information:***

AAIT010GT05AL-A-1

AIT=APD-TIA

010G=10Gbps

05=Pin-out, see table

AL=TO52 cap with aspheric lens

-A= focus length  $2.6 \pm 0.2\text{mm}$

-1=TIA type, GN7068

If the focus is inappropriate, Please contact us. We can change the focus within a certain range.

***Precaution:***

- (1) The modules should be handled in the same manner as ordinary semiconductor device to prevent the electro-static damages. For safety keeping and carrying, the modules should be packaged with ESD proof material. To assemble the modules on PCB, the workbench, the soldering iron and the human body should be grounded.
- (2) Please pay special attention to the atmosphere condition because the dew on the module may cause some electrical damages.
- (3) Under such a strong vibration environment as in automobile, the performance and reliability are not guaranteed.