

# 1.25Gbps InGaAs APD-TIA TO-CAN

**Model: AAIT1250T05BL-X**



## Features:

- Bit rate up to 1.25Gb/s
- High sensitivity
- Wide temperature range from -40°C to +85°C
- Suitable for long distance applications

## Product Specifications:

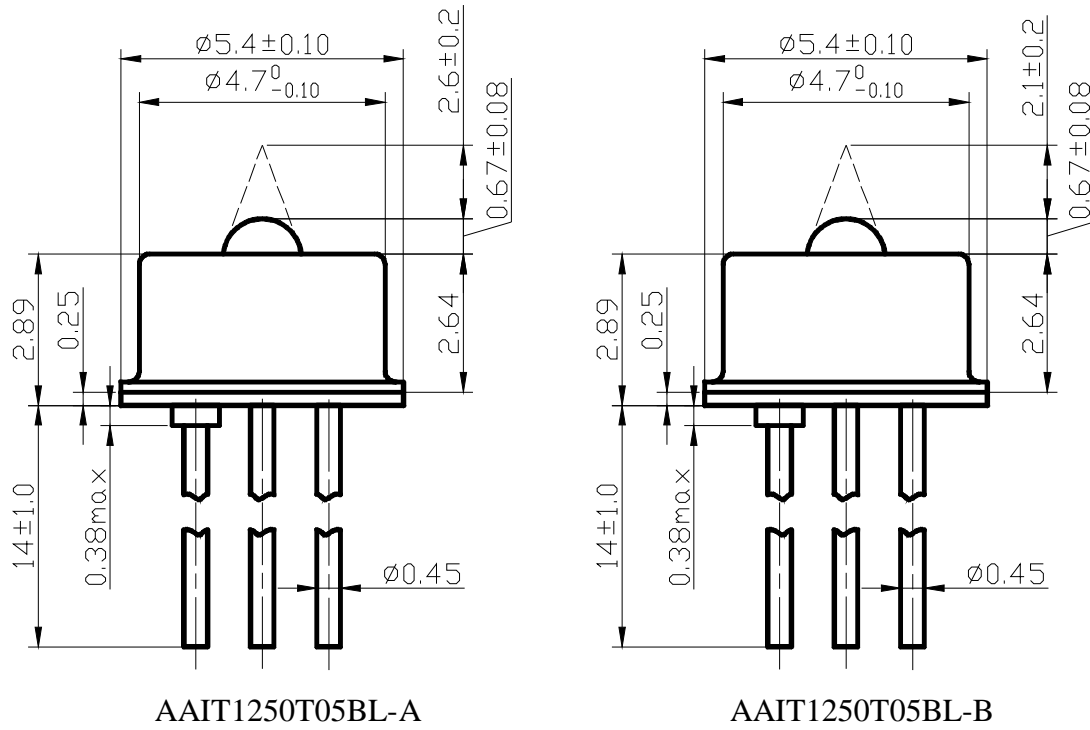
Absolute Maximum Ratings(T=25°C)

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	4.5	
Operating Temperature	T <sub>OP</sub>	°C	-40	85	
Storage Temperature	T <sub>syg</sub>	°C	-40	100	
Solder Reflow Temperature	T <sub>sl</sub>	°C		260	10 seconds max

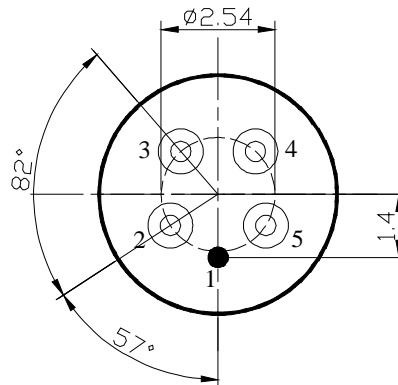
Electro-Optical Characteristics(T=25°C, unless noted otherwise)

Parameter	Symbol	Unit	Min	Typ	Max	Test Condition
Supply Voltage	V <sub>cc</sub>	V	3.0	3.3	3.6	
Supply Current	I <sub>cc</sub>	mA	23	28	33	No load, V <sub>cc</sub> =3.3V
Breakdown Voltage	V <sub>br</sub>	V	40	45	50	I <sub>d</sub> =10μA, V <sub>cc</sub> off
Wavelength Range	λ	nm	1100		1650	
Saturated Optical Power	P <sub>sat</sub>	dBm	-3			1.25Gb/s, λ=1310nm, ER=9, BER=10 <sup>-10</sup> , PRBS=2 <sup>23</sup> -1, V <sub>br</sub> -3
Dark Current	I <sub>d</sub>	nA			10	V <sub>R</sub> =V <sub>br</sub> -3
Responsibility	R	A/W	0.80			λ=1310nm, M=1
-3dBm Bandwidth	BW	GHz	0.9			R <sub>L</sub> = 50Ω
Sensitivity	Sen.	dBm		-35	-33	1.25Gb/s, λ=1310nm, ER=9, BER=10 <sup>-10</sup> , PRBS=2 <sup>23</sup> -1, V <sub>br</sub> -3

**Outline Drawings (in mm):**



**PIN-OUT**



XX="05"(Bottom View)

Pin Assignment	
Number	"05"
PIN 1	Gnd
PIN 2	Non-Inverted Output
PIN 3	V <sub>cc</sub>
PIN 4	V <sub>PD</sub>
PIN 5	Inverted Output



***Ordering information:***

AAIT1250T05BL-X

AIT=APD-TIA

1250: 1.25Gbps

05: Pin-out, see table

BL: TO52 cap

X: "A"= height 2.64mm and focal length  $2.6\pm 0.2\text{mm}$

"B"= height 2.64mm and focal length  $2.1\pm 0.2\text{mm}$

***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.