

## 10G 1310/1550nm APD-TIA 5pin TO-33

### L-TR-EA99-xx Series

Ver. : **1.2**

**Type Name: L-TR-EA99-16**

#### Product Description:

The LuxNet L-TR-EA99-16 is designed for high-speed, high-performance data communication applications. This device integrates our high-speed 1310/1550nm APD detector with a 10G trans-impedance amplifier (TIA) and capacitors into a TO-33 header with flat window cap. The APD-TIA assembly can be integrated with a fiber receptacle housing to receive light from fiber through a receptacle into the APD detector with high coupling efficiency.

#### Application Note:

- 10G BiDi

#### Product Specifications:

Absolute Maximum Ratings (T = 25°C):

Parameter	Symbol	Unit	Min.	Max.	Note
Operating Temperature	Top	°C	-40	85	Case Temp.
Storage Temperature	Tstg	°C	-40	85	
TIA supply voltage	Vcc	V	-0.5	4.5	Tc = 25°C
APD Reverse Current	Ir	mA	-	2	
APD supply voltage	Vpd	V	-	Vbr	

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

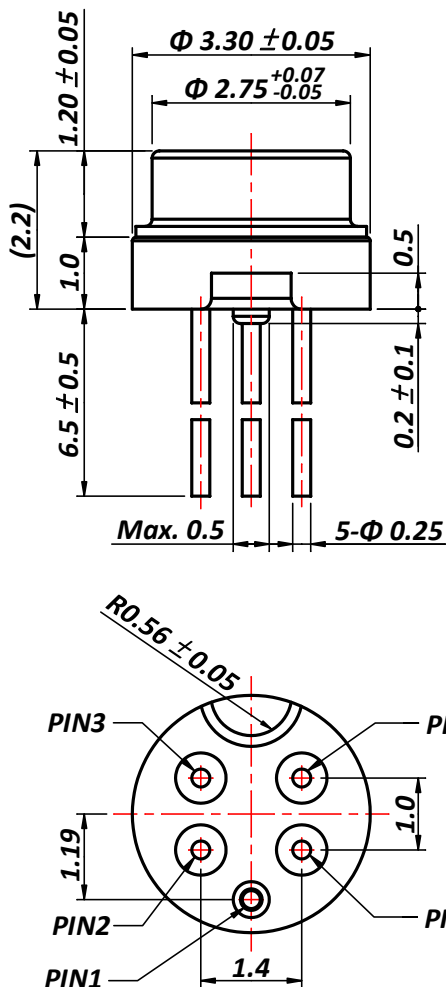
Parameter	Symbol	Unit	Min.	Typ	Max.	Test Condition
Power Supply Voltage	Vcc	V	2.97	3.3	3.63	
Supply Current	Icc	mA	19	24	29	Vcc=3.3V, no light
APD Break down voltage	Vbr	V	26	30	34	I=10uA

*All specifications or information contained herein are subject to change for improvement without notice.  
 Further details are available from any LUXNET sales representative.*

Parameter	Symbol	Unit	Min.	Typ	Max.	Test Condition
Wavelength	$\lambda$	nm	1250	-	1650	
Responsivity	Res	A/W	0.7	0.85	-	$\lambda=1550\text{nm}$
Operation Voltage	Vop	V	-	Vbr*0.9	-	
Dark current	Idark	nA	-	-	150	Vbr*0.9
Low Frequency Corner	BW <sub>Low</sub>	KHz	25	30	45	-3dB
Sensitivity	Sen	dBm	-	-	-22	$\lambda=1550\text{nm}$ ER=7.5, PRBS 2 <sup>31-1</sup> , BER=10 <sup>-12</sup> , Data rate 10.3125Gbps
Overload	Sen	dBm	-7	-	-	$\lambda=1550\text{nm}$ ER=7.5, PRBS 2 <sup>31-1</sup> , BER= Error free Data rate 10.3125Gbps

### L-TR-EA99-16

**Dimension:** (mm)



PINOUT(BOTTOM VIEW)	
PIN NUMBER	FUNCTION
1	GND
2	D+
3	Vcc
4	VAPD
5	D-

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Version	Date	Notes
1.0	11/18/2022	Initial
1.1	09/13/2023	Modify the dimensional tolerance of 3.3+/-0.05mm Change the Sensitivity spec from max. -30.5 dBm at BER:10 <sup>-3</sup> to max. -22.0 dBm at BER:10 <sup>-12</sup> .
1.2	12/28/2023	Modify the Icc spec. from 22~38mA to 19~29mA

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