



25G InGaAs PIN Photodiode TIA Pigtail ROSA

Description

A 25 Gb/s InGaAs PIN photodiode packaged with a transimpedance amplifier (TIA). This device is packaged in a TO-Can with pigtail optical connector. Offering flat response and a broad temperature operating range. The device is configured for vertical mounting on PCB. Flexible PCB can be soldered for horizontal mounting.

Features

- TO-Can Package
- Pigtail Connector
- 25 Gbps
- Wide temperature operating range
- Received signal strength indicator
- TIA Built in
- 4K Ohm Transimpedance Gain
- PCB solderable mount
- -15 dBm sensitivity



Applications

- 5G
- RF over Fiber (RToF)



IMPORTANT NOTICE: more information on warranty, changes, rights, notices, and other information are presented at the back of this data sheet. If the back sheet is not present, refer to www.nuphotonics.com for the company issued data sheet.

Photodiode Electro-Optical Characteristics (T_{op} 23 ± 3°C, unless otherwise specified)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Conditions
Supply Voltage	V_{cc}	2.9	3.3	3.6	V	
Supply Current	I_{cc}		30	35	mA	$V_{cc} = 3.3$ V, $P_{in} = 0$ dBm
Response Spectrum	λ	1260		1610	nm	$V_{cc} = 3.3$ V
Bandwidth	BW		21		GHz	-3 dB bandwidth
Saturation / Input Power	Sat		3		dBm	$V_{cc} = 3.3$ V
Sensitivity	Sen		-17	-14	dBm	10.30 Gbps, 1310 nm, ER = 4.5 dB, BER = 10^{-12}
Optical Return Loss	ORL			-27	dB	CW = 1310 nm
RSSI Offset Current	I_{RSS}		40		nA	$V_{cc} = 3.3$ V
Responsivity	R	0.7	0.8		A/W	1310 nm, 50 % VBR, M=2, Pin -20 dBm
Dark Current	I_d		5		nA	$V_{cc} = 3.3$ V
Output Impedance	Z_o		100			Differential
Maximum Output Voltage	V_o		300		mV _{p-p}	Differential
Low Frequency Cutoff	F_{low}		60		KHz	

Photodiode Absolute Maximum Ratings

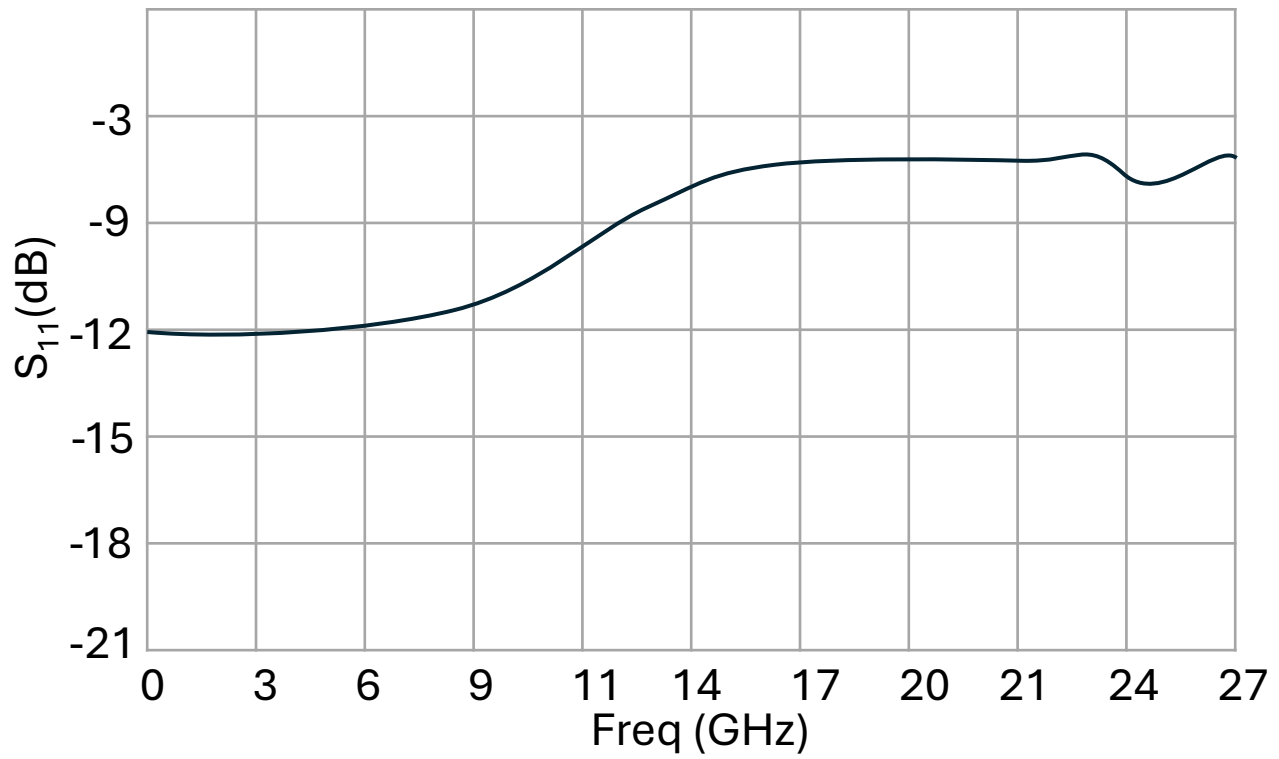
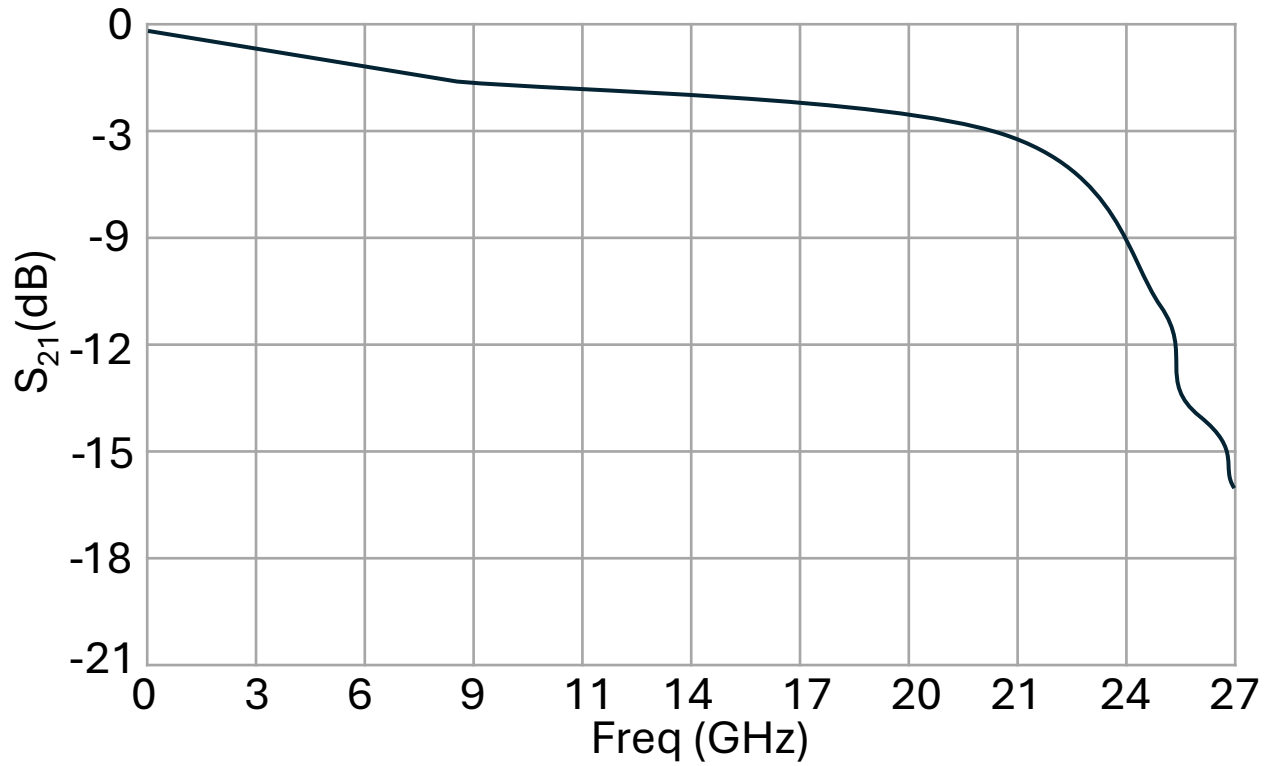
Parameter	Symbol	Condition	Min.	Max.	Unit
Voltage	V			3.6	V
V_{cc} current	I			40	mA
Input Optical Power	P_{in}			5	dBm
Storage Temperature	T_{stg}		-40	90	°C
Storage Humidity	H_{stg}			85	% r.H.
Operating Temperature	T_{op}		-40	85	°C
Soldering Temperature	T_{st}	10 sec		260	°C
ESD Susceptibility		HBM	100		V

Operating at maximum operating specs for prolong periods of time will damage the device.

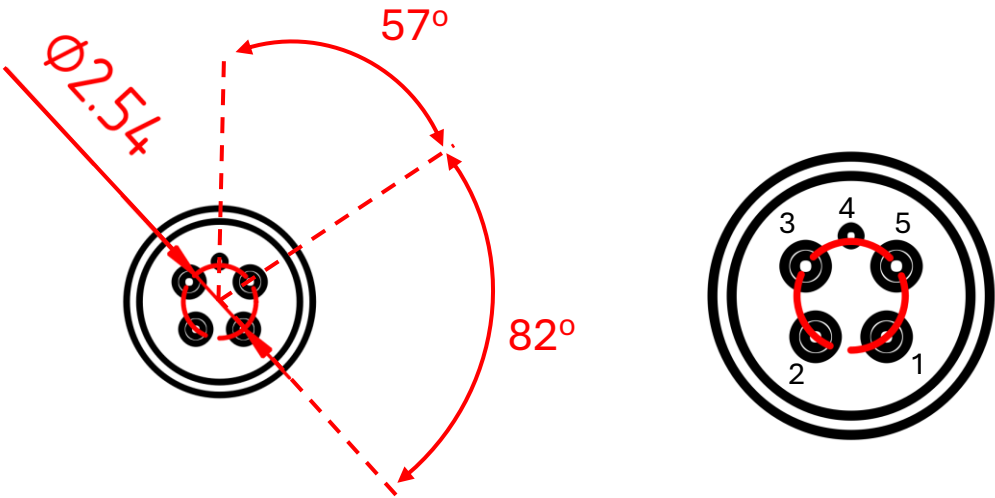


Typical Performance Curves (Top 23°C, 801 PTs, 16 AVGs, 1.5% smoothing)

RF performance dependent on PCB design and optimization. Data shown for Rogers® RO3003 with Ground-backed Co-planar waveguide (GB-CPW). The GB-CPW was de-embedded. Single ended measurement, port two is terminated with 50 Ohm load

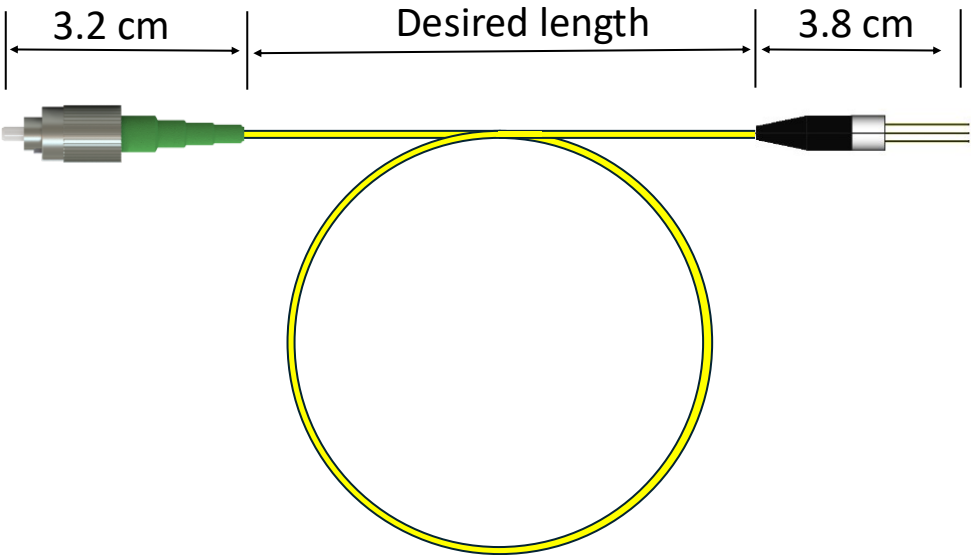


Device Pinout



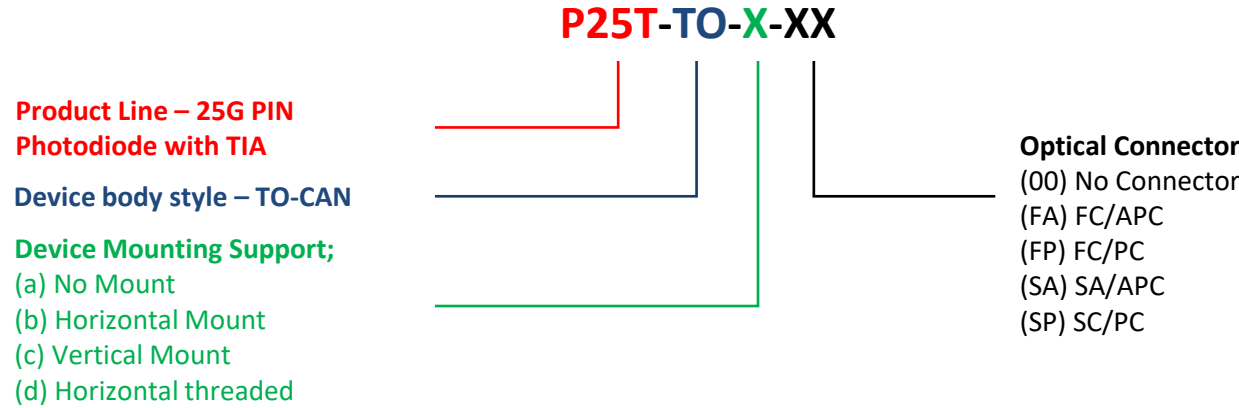
Pin	Function
1	VCC
2	I _{mon}
3	Dout -
4	Gnd
5	Dout +

Mechanical Drawing



Connector length dependent on optical connector. Product may differ visually.

Device Nomenclature



Example: P25T-TO-A-FA
25G PIN-TIA Rosa No mount FC/APC Connector



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