



1.25Gbps Pigtailed InGaAs PIN Photodiode Receiver Module with Integrated TIA

R13-1G-PYZ-VP

Data Sheet



Description

The Lasermate R13-1G-PYZ-VP series is an InGaAs PIN photodiode receiver module with integrated transimpedance amplifier (TIA), optimized for operation within the 1100–1630 nm wavelength range. The R13-1G-PYZ-VP is offered in fiber-pigtailed coaxial packages with optional FC, ST, SC, or LC connectors. It features high optical sensitivity and supports high-speed data transmission up to 1.25 Gbps, making it ideal for broadband optical signal detection applications.

Features

- High speed operation up to 1.25Gbps
- High sensitivity
- Integrated InGaAs PIN photodiode and transimpedance amplifier (TIA)
- Hermetically sealed package for enhanced reliability
- Single +3.3V power supply
- Single mode fiber pigtail
- Available with bare fiber or FC/ST/SC/LC connectors

Applications

- SONET OC3, OC-12 / SDH STM-1, STM-4
- LAN

Ordering Information

Model Number Format	R13-1G-PYZ-VP
R13 = Receiver	InGaAs/InP PIN-TIA photodiode
1G = Data Rate	1.25 Gbps
P = Package	Pigtailed
Y = Connector	None (NO); FC/PC (FC); SC/PC (SC); ST/PC (ST); LC/PC (LC); FC/APC (FA); SC/APC (CA); ST/APC (TA); LC/APC (LA)
Z = Sensitivity	-22dBm (1), -24dBm (2), -26dBm (3)
V = Supply voltage	3.3V (3)
P = Pin configuration	4-pin (4); 5-pin (5)

Specifications

Absolute Maximum Ratings			
Parameters	Symbol	Value	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Peak optical power	Po	0	dBm
Power supply Voltage	Vp	3.6	V
Soldering temperature	Stemp	260	°C
Soldering time	Stime	10	sec

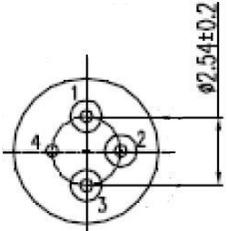
Electro-Optical Characteristics (CW @ T _c = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength	λ	1100		1630	nm	
Bandwidth	BW	700			MHz	Vcc
Low Frequency Cut-off	LF			100	kHz	Vcc
Supply Current	Icc		22	35	mA	Vcc, no load
Sensitivity	S	-22			dBm	λ=1310nm, @1244.16Mbps, PRBS7, ER=10dB, BER=1E ⁻¹⁰
		-24				
		-26				
Saturation power	Psat	0			dBm	λ=1310nm, @1244.16Mbps, PRBS7, ER=10dB, BER=1E ⁻¹⁰
Differential Responsivity	Rd	12		30	mV/μW	Rload = 100ohm, P = -22Bm, λ=1310nm
Rise/Fall Time	Tr/Tf			400	ps	Vcc=3.3V, 20%~80%
Single Ended Impedance	Ro		50		ohm	

Fiber Pigtail Specifications					
Parameters	Symbol	Min.	Typ.	Max.	Unit
Fiber type		Single Mode Fiber (Flame Retardant Hytrel Coating)			
Cladding diameter	Dcl	122	125	128	um
Mode field diameter	Dmf	-	10	-	um
Coating diameter	Dbc	-	0.9	1	mm
Pigtail length	L	0.9	1.0	1.1	m
Bending radius	Rb	30	-	-	mm
Connector		TBD			

Note: Horizontal mount is available upon request and provided separately.

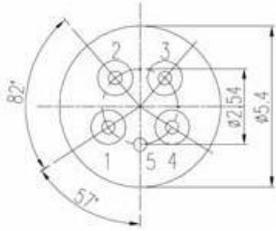
Pin Configuration

4-pin:



Number	Function
1	VCC
2	Dout-
3	Dout+
4	GND

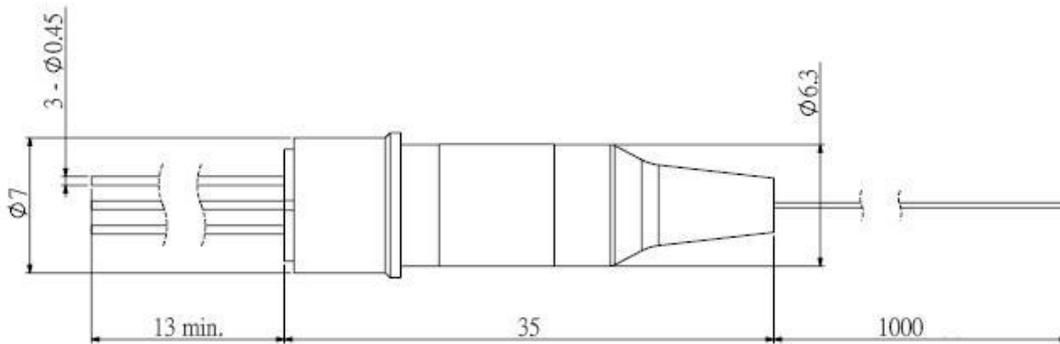
5-pin:



Number	Function
1	Dout +
2	Vcc
3	Isource
4	Dout -
5	GND

Outline Dimensions (unit: mm)

Coaxial Fiber Pigtailed Photodiode



Note: Specifications are subject to change without notice.