



2.5Gbps Receptacle InGaAs PIN Photodiode Receiver Module with Integrated TIA

R13-2G-RYZ-VP

Data Sheet



Description

The Lasermate R13-2G-RYZ-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 R13-2G-RYZ-VP is offered in receptacle-style housings with FC or ST connectors. It features high optical sensitivity and supports high-speed data transmission up to 2.5 Gbps, making it ideal for broadband optical signal detection applications.

Features

- High speed operation up to 2.5Gbps
- High sensitivity
- Integrated InGaAs PIN photodiode and transimpedance amplifier (TIA)
- Hermetically sealed package for enhanced reliability
- Single +3.3V power supply
- FC or ST receptacle interface for easy connectivity

Applications

- SONET OC3, OC-12, OC-48
- SDH STM-1, STM-4, STM-16
- LAN

Ordering Information

Model Number Format	R13-2G-RYZ-VP
R13 = Receiver	InGaAs/InP PIN-TIA photodiode
2G = Data Rate	2.5 Gbps
R = Package	Receptacle
Y = Connector	FC (FC), ST (ST)
Z = Sensitivity	-18dBm (1), -20dBm (2), -22dBm (3), -24dBm (4)
V = Supply voltage	3.3V (3)
P = Pin configuration	5-pin (5)

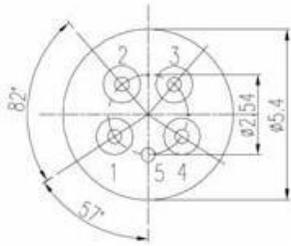
Specifications

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	1.4			MHz	V _{cc}
Low Frequency Cut-off	LF			100	kHz	V _{cc}
Supply Current	I _{cc}		45	60	mA	V _{cc} , no load
Sensitivity	S	-18			dBm	$\lambda=1310\text{nm}$, @2488.32Mbps, PRBS23, ER=10dB, BER=1E ⁻¹⁰
		-20				
		-22				
		-24				
Saturation power	P _{sat}	0			dBm	$\lambda=1310\text{nm}$, @2488.32Mbps, PRBS23, ER=10dB, BER=1E ⁻¹⁰
Differential Responsivity	R _d	14		30	mV/ μ W	R _{load} = 100ohm, P = -18Bm, $\lambda=1310\text{nm}$
Rise/Fall Time	τ_r/τ_f		170	200	ps	V _{cc} =3.3V, 20%~80%
Single Ended Impedance	R _o		50		ohm	

Pin Configuration

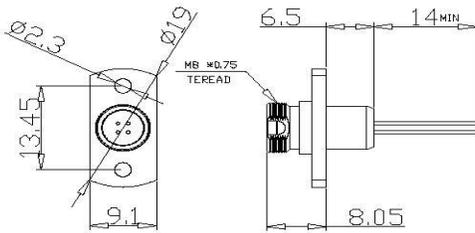
5-pin:



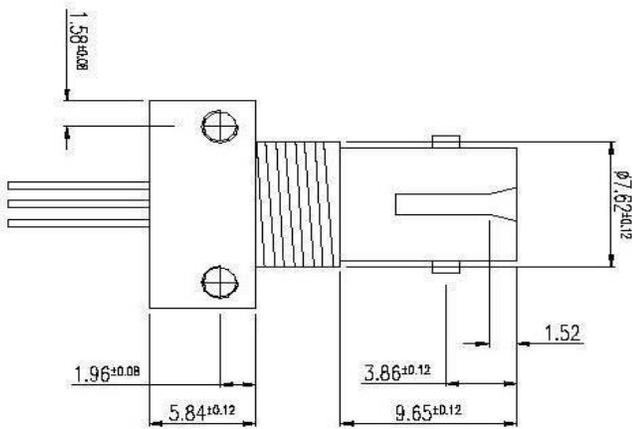
Number	Function
1	Dout +
2	Vcc
3	Isource
4	Dout -
5	GND

Outline Dimensions (unit: mm)

FC Receptacle



ST Receptacle



Note: Specifications are subject to change without notice.