



2.5Gbps Pigtailed InGaAs PIN Photodiode Receiver Module with Integrated TIA

R13-2G-PYZ-VP

Data Sheet



Description

The Lasermate R13-2G-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 R13-2G-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 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
- Single mode fiber pigtail
- Available with bare fiber or FC/ST/SC/LC connectors

Applications

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

Ordering Information

Model Number Format	R13-2G-PYZ-VP
R13 = Receiver	InGaAs/InP PIN-TIA photodiode
2G = Data Rate	2.5 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	-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

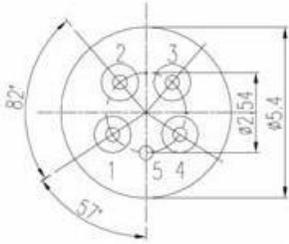
Electro-Optical Characteristics (CW @ T _c = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength	λ	1100		1630	nm	
Bandwidth	BW	1.4			MHz	V _{cc}
Low Frequency Cut-off	LF			100	kHz	V _{cc}
Supply Current	I _{cc}		45	60	mA	V _{cc} , no load
Sensitivity	S	-18			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	

Fiber Pigtail Specifications						
Parameters	Symbol	Min.	Typ.	Max.	Unit	
Fiber type	Single Mode Fiber (Flame Retardant Hytrel Coating)					
Cladding diameter	D _{cl}	122	125	128	μ m	
Mode field diameter	D _{mf}	-	10	-	μ m	
Coating diameter	D _{bc}	-	0.9	1	mm	
Pigtail length	L	0.9	1.0	1.1	m	
Bending radius	R _b	30	-	-	mm	
Connector	TBD					

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

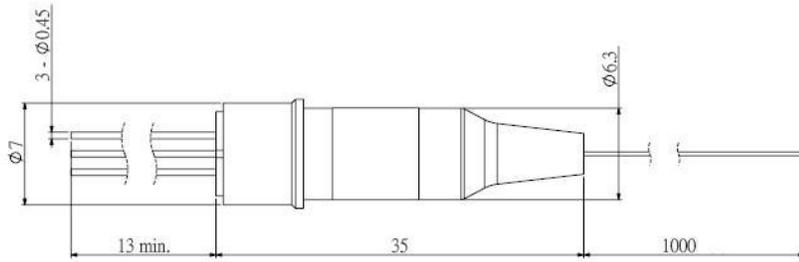
Pin Configuration

5-pin:



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

Outline Dimensions (unit: mm)



Note: Specifications are subject to change without notice.