622Mbps Pigtailed InGaAs PIN Photodiode Receiver Module with Integrated TIA

R13-622-PYZ-VP

Data Sheet

Description

The Lasermate R13-622-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 R13-622-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 622 Mbps, making it ideal for broadband optical signal detection applications.

Features

- High speed operation up to 622Mbps
- High sensitivity
- Hermetically sealed package
- Single power supply +3.3V
- 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	**R13-622-PYZ-VP**
R13 = Receiver	InGaAs/InP PIN-TIA photodiode
622 = Data Rate	622 Mbps
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	-28dBm **(1)**, -30dBm **(2)**
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	ºC
Operating case temperature	Top	-40~+85	ºC
Peak optical power	Po	0	dBm
Power supply Voltage	Vp	3.6	V
Soldering temperature	Stemp	260	ºC
Soldering time	Stime	10	sec

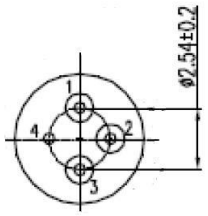
Electro-Optical Characteristics (CW @ T_C = 25ºC unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength	λ	1100		1630	nm	
Bandwidth	BW	700			MHz	Vcc
Low Frequency Cut-off	LF			100	kHz	Vcc
Supply Current	Icc		22	35	mA	Vcc, no load
Sensitivity	S	-22			dBm	λ=1310nm, @622.08Mbps, PRBS23, ER=10dB, BER=1E^{-10}
		-24				
		-26				
Saturation power	Psat	0			dBm	λ=1310nm, @622.08Mbps, PRBS23, ER=10dB, BER=1E^{-10}
Differential Responsivity	Rd	12		30	mV/μW	Rload = 100ohm, P = -22Bm, λ=1310nm
Rise/Fall Time	τ_r/τ_f			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.

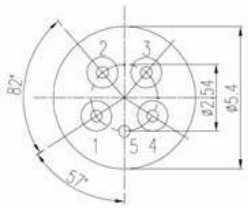
Pin Configuration

4-pin:



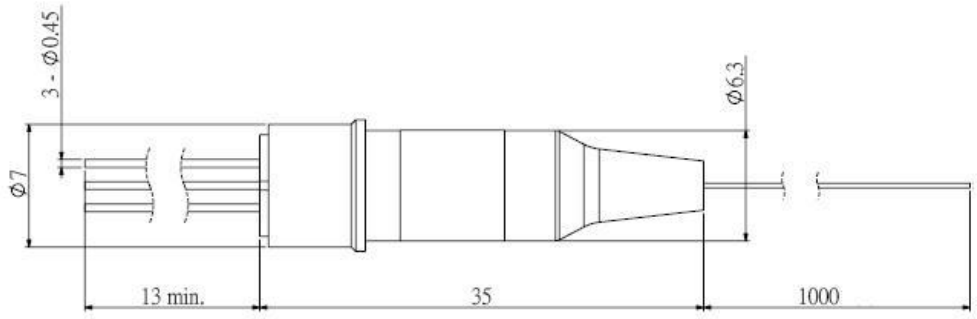
Number	Function
1	VCC
2	Dout-
3	Dout+
4	GND

5-pin:



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

Outline Dimensions (unit: mm)



Note: Specifications are subject to change without notice.