



155Mbps Pigtailed InGaAs PIN Photodiode Receiver Module with Integrated TIA

R13-155-PYZ-VP

Data Sheet



Description

The Lasermate R13-155-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 R13-155-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 155 Mbps, making it ideal for broadband optical signal detection applications.

Features

- High speed operation up to 155Mbps
- 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 / SDH STM-1
- LAN

Ordering Information

Model Number Format	R13-155-PYZ-VP
R13 = Receiver	InGaAs/InP PIN-TIA photodiode
155 = Data Rate	155 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	-32dBm (1); -34dBm (2); -36dBm (3)
V = Supply voltage	3.3V (3)
P = Pin configuration	4-pin (4); 5-pin (5)

Specifications

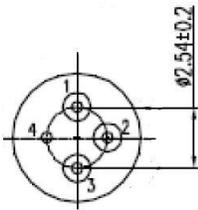
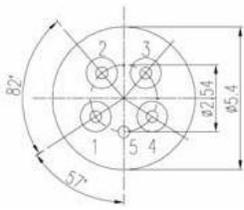
Absolute Maximum Ratings			
Parameters	Symbol	Value	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Peak optical power	Po	0	dBm
Power supply Voltage	Vp	3.6	V
Soldering temperature	Stemp	260	°C
Soldering time	Stime	10	sec

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	115			MHz	V _{cc}
Low Frequency Cut-off	LF			30	kHz	V _{cc}
Supply Current	I _{cc}		25	35	mA	V _{cc} , no load
Sensitivity	S	-32			dBm	λ=1310nm, @155.52Mbps, PRBS23, ER=10dB, BER=1E ⁻¹⁰
		-34				
		-36				
Saturation power	P _{sat}	0			dBm	λ=1310nm, @155.52Mbps, PRBS23, ER=10dB, BER=1E ⁻¹⁰
Differential Responsivity	R _d	0.1		120	mV/μW	R _{load} = 100ohm, P = -22Bm, λ=1310nm
Rise/Fall Time	T _r /T _f			4.5	ns	V _{cc} =3.3V, 20%~80%
Single Ended Impedance	R _o		50		ohm	

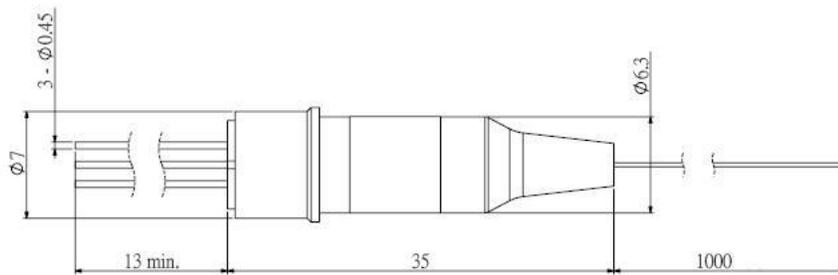
Fiber Pigtail Specifications						
Parameters	Symbol	Min.	Typ.	Max.	Unit	
Fiber type	Single Mode Fiber (Flame Retardant Hytrel Coating)					
Cladding diameter	D _{cl}	122	125	128	um	
Mode field diameter	D _{mf}	-	10	-	um	
Coating diameter	D _{bc}	-	0.9	1	mm	
Pigtail length	L	0.9	1.0	1.1	m	
Bending radius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

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

Pin Configuration

<p>4-pin:</p>  <table border="1" data-bbox="397 363 678 516"> <thead> <tr> <th>Number</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>VCC</td> </tr> <tr> <td>2</td> <td>Dout-</td> </tr> <tr> <td>3</td> <td>Dout+</td> </tr> <tr> <td>4</td> <td>GND</td> </tr> </tbody> </table>	Number	Function	1	VCC	2	Dout-	3	Dout+	4	GND	<p>5-pin:</p>  <table border="1" data-bbox="1058 338 1367 520"> <thead> <tr> <th>Number</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Dout +</td> </tr> <tr> <td>2</td> <td>Vcc</td> </tr> <tr> <td>3</td> <td>Isource</td> </tr> <tr> <td>4</td> <td>Dout -</td> </tr> <tr> <td>5</td> <td>GND</td> </tr> </tbody> </table>	Number	Function	1	Dout +	2	Vcc	3	Isource	4	Dout -	5	GND
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Outline Dimensions (unit: mm)



Note: Specifications are subject to change without notice.