



## R13-1G-PYZ-VP

### 1.25Gbps Pigtailed InGaAs PIN-TIA Photodiode Receiver Module

#### Description

The Lasermate R13-1G-PYZ-VP is a 1100-1630nm wavelength range, fiber-coupled InGaAs PIN photodiode receiver module integrated with transimpedance amplifier. The devices are available in fiber pigtailed coaxial packages with optional FC/ST/SC connector. The InGaAs photodiode module features high sensitivity and high-speed reaching up to 1.25Gbps data rate operation.



#### Features

- High speed
- High Sensitivity
- Hermetically sealed
- Single power supply +3.3V

#### Packaging

- SM fiber pigtailed with optional FC/ST/SC connector

#### Applications

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

#### Ordering Information

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



**Specifications**

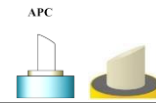
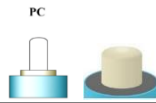
Absolute Maximum Ratings			
Parameters	Symbol	Value	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Peak optical power	Po	0	dBm
Power supply Voltage	Vp	3.6	V
Soldering temperature	Stemp	260	°C
Soldering time	Stime	10	sec

Electro-Optical Characteristics (CW @ Tc = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength	$\lambda$	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 -24 -26			dBm	$\lambda=1310\text{nm}$ , @1244.16Mbps, PRBS7, ER=10dB, BER=1E <sup>-10</sup>
Saturation power	Psat	0			dBm	$\lambda=1310\text{nm}$ , @1244.16Mbps, PRBS7, ER=10dB, BER=1E <sup>-10</sup>
Differential Responsivity	Rd	12		30	mV/ $\mu$ W	Rload = 100ohm, P = -22Bm, $\lambda=1310\text{nm}$
Rise/Fall Time	$\tau_r/\tau_f$			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.

### Optical Fiber Connector Types



Type	Ferrule Diameter	Single mode PC	Single mode APC
FC	2.5mm		
SC	2.5mm		
ST	2.5mm		
LC	1.25mm		

### Pin Configuration

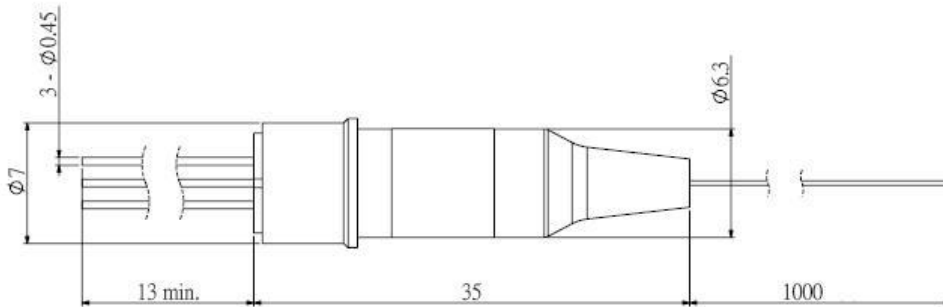
**4-pin:**

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.