



1.25 Gbps Pigtailed GaAs PIN Photodiode Receiver Module with Integrated TIA

R85-1G-PYZ-VP

Data Sheet



Description

The R85-1G-PYZ-VP series consists of GaAs-based amplified photodiode receiver modules optimized for the 770–860 nm spectral range. Each module integrates a GaAs photodiode with a high-gain transimpedance amplifier (TIA), delivering high sensitivity and supporting data rates up to 1.25 Gbps. The pigtailed configuration features a 62.5/125 μm multimode fiber, available with bare fiber or terminated with FC, ST, SC, or LC connectors. These modules are ideal for applications requiring high-speed optical signal detection and flexible fiber-coupled integration.

Features

- High-speed operation up to 1.25 Gbps
- High sensitivity
- Integrated GaAs PIN photodiode and transimpedance amplifier (TIA)
- Hermetically sealed package for enhanced reliability
- Single +3.3V power supply
- 62.5/125 μm multimode 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	R85-1G-PYZ-VP
R85 = Receiver	GaAs PIN-TIA photodiode
1G = Data Rate	1.25 Gbps
P = Package	Pigtailed
Y = Connector	None (NO); FC/PC (FC); SC/PC (SC); ST/PC (ST); LC/PC (LC)
Z = Sensitivity	-18dBm (1), -20dBm (2), -22dBm (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

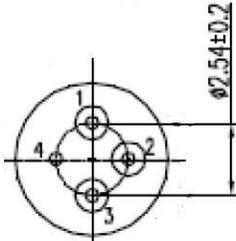
Electro-Optical Characteristics (CW @ T _c = 25°C unless otherwise noted)						
Parameters	Symbol	Min.	Typ.	Max.	Unit	Conditions
Wavelength	λ	770		860	nm	
Bandwidth	BW	700			MHz	V _{cc}
Low Frequency Cut-off	LF			100	kHz	V _{cc}
Supply Current	I _{cc}		22	35	mA	V _{cc} , no load
Sensitivity	S	-18			dBm	$\lambda=850\text{nm}$, @1244.16Mbps, PRBS7, ER=10dB, BER=1E ⁻¹⁰
		-20				
		-22				
Saturation power	P _{sat}	0			dBm	$\lambda=850\text{nm}$, @1244.16Mbps, PRBS7, ER=10dB, BER=1E ⁻¹⁰
Differential Responsivity	R _d	6.4		17.8	mV/ μ W	R _{load} = 100ohm, P = -22Bm, $\lambda=850\text{nm}$
Rise/Fall Time	T _r /T _f			400	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	Multimode Fiber (Flame Retardant Hytrel Coating)					
Cladding diameter	D _{cl}	122	125	128	um	
Mode field diameter	D _{mf}	-	62.5	-	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.

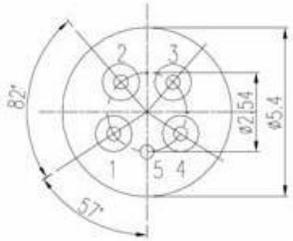
Pin Configuration

4-pin:



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

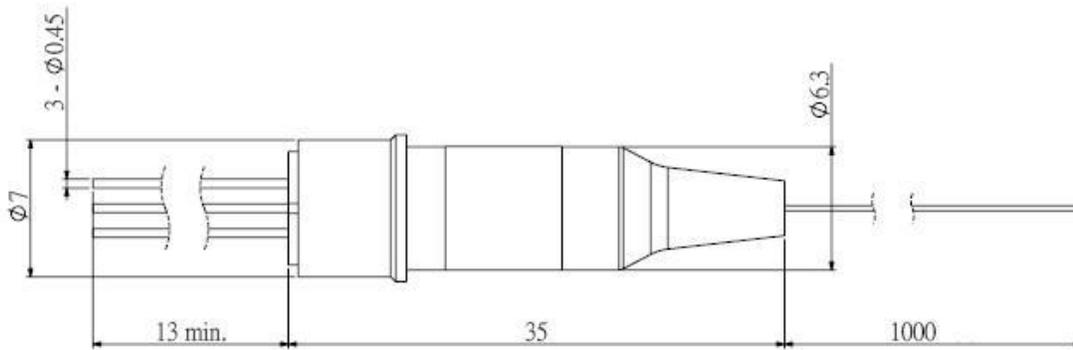
5-pin:



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

Outline Dimensions (unit: mm)

Coaxial Fiber Pigtailed PIN Photodiode



Note: Specifications are subject to change without notice.