



1.25 Gbps Receptacle GaAs PIN Photodiode Receiver Module with Integrated TIA R85-1G-RYZ-VP

Data Sheet



Description

The R85-1G-RYZ-VP series includes GaAs-based amplified photodiode receiver modules optimized for the 770–860 nm spectral range. Each unit combines a GaAs photodiode with a high-gain transimpedance amplifier (TIA), providing excellent sensitivity and supporting data rates up to 1.25 Gbps. The modules are available in FC or ST receptacle packages, designed for applications that demand high-speed optical signal reception with direct fiber receptacle interfaces.

Features

- High-speed operation up to 1.25 Gbps
- High sensitivity for efficient optical reception
- Integrated GaAs PIN photodiode and TIA
- Hermetically sealed for long-term stability
- Single +3.3V power supply
- FC or ST receptacle interface for easy connectivity

Applications

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

Ordering Information

Model Number Format	R85-1G-RYZ-VP
R85 = Receiver	GaAs PIN-TIA photodiode
1G = Data Rate	1.25 Gbps
R = Package	Receptacle
Y = Connector	FC (FC), ST (ST)
Z = Sensitivity	-18dBm (1), -20dBm (2), -22dBm (3)
V = Supply voltage	3.3V (3)
P = Pin configuration	4-pin (4); 5-pin (5)

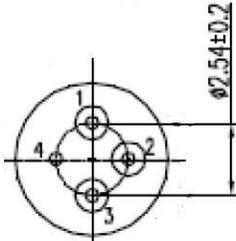
Specifications

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	

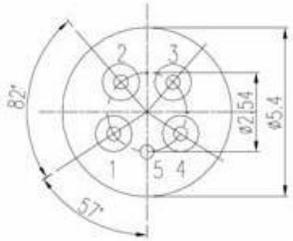
Pin Configuration

4-pin:



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

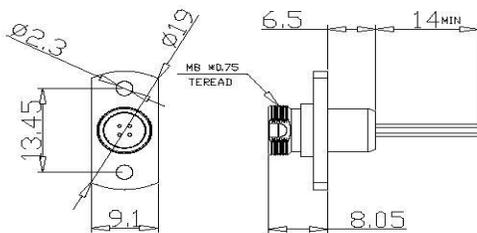
5-pin:



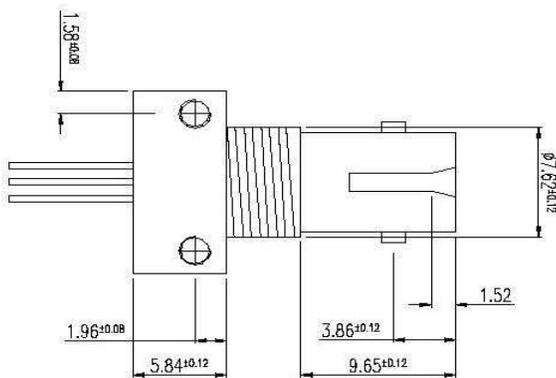
Number	Function
1	Dout +
2	Vcc
3	Isource
4	Dout -
5	GND

Outline Dimensions (unit: mm)

FC Receptacle



ST Receptacle



Note: Specifications are subject to change without notice.