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Description

The R85-2G-PYZ-VP series comprises fiber-coupled GaAs photodiode receiver modules with integrated high-gain transimpedance amplifiers (TIA), designed for high-speed optical signal detection in the 770–860 nm spectral range. Each module features a GaAs photodiode and supports data rates up to 2.5 Gbps. The devices are available in pigtailed configurations with 62.5/125 µm multimode fiber, offered either with bare fiber or terminated with FC, ST, SC, or LC connectors. These modules are ideal for data communication applications requiring robust fiber coupling and high sensitivity.

Features

- High-speed operation up to 2.5 Gbps
- High sensitivity GaAs PIN photodiode
- Hermetically sealed package
- Single +3.3V power supply
- Integrated transimpedance amplifier (TIA)
- 62.5/125 µm multimode fiber pigtail
- Optional connectors: FC, ST, SC, LC

Applications

- SONET OC3, OC-12, OC-48
- SDH STM-1, STM-4, STM-16
- LAN

Ordering Information

Model Number Format	R85-2G-PYZ-VP
R85 = Receiver	GaAs PIN-TIA photodiode
2G = Data Rate	2.5 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)**
V = Supply voltage	3.3V **(3)**
P = Pin configuration	5-pin **(5)**

Specifications

Absolute Maximum Ratings

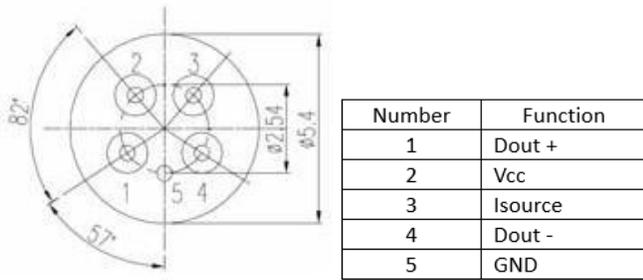| Parameters	Symbol	Value	Unit
Storage temperature	Tstg	-40~+85	°C
Operating case temperature	Top	-40~+85	°C
Peak optical power	Po	0	dBm
Power supply Voltage	Vp	3.6	V
Soldering temperature	Stemp	260	°C
Soldering time	Stime	10	sec

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	1.4			MHz	Vcc
Low Frequency Cut-off	LF			100	kHz	Vcc
Supply Current	Icc		25	35	mA	Vcc, no load
Sensitivity	S	-18			dBm	λ=850nm, @2488.32Mbps, PRBS23, ER=10dB, BER=1E^{-10}
		-20				
Saturation power	Psat	0			dBm	λ=850nm, @2488.32Mbps, PRBS23, ER=10dB, BER=1E^{-10}
Differential Responsivity	Rd	1.8		3.8	mV/µW	λ=850nm, @2488.32Mbps, PRBS23, ER=10dB, BER=1E^{-10}
Rise/Fall Time	T_r/T_f		170	200	ps	Vcc=3.3V, 20%~80%
Single Ended Impedance	Ro		50		ohm	

Fiber Pigtail Specifications

Parameters	Symbol	Min.	Typ.	Max.	Unit
Fiber type	Multimode Fiber (Flame Retardant Hytrel Coating)				
Cladding diameter	Dcl	122	125	128	um
Mode field diameter	Dmf	-	62.5	-	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				

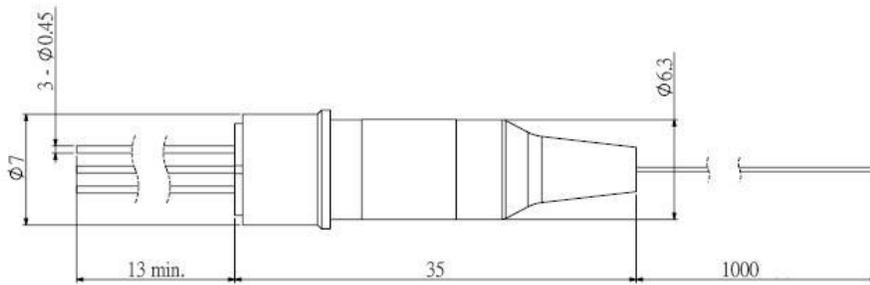Note: Horizontal mount is available upon request and provided separately.

Pin Configuration

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.