

2.5 Gbps PIN/TIA Fiber Pigtail Receiver



Key Features

- Case grounded hermetic five-pin TO-46 coaxial package
- Separate PIN and TIA bias inputs, allowing optimization of operating points and noise immunity
- -40 to +85°C operating temperature range with -26 dBm typical sensitivity

Applications

- Passive Optical Networks and FTTx applications
 - GE-PON
- Access and Metro networks
 - SONET OC-48 SR-1, IR-1, IR-2 receivers

The JDSU RXP M DPGX 087 XX-000 single-mode fiber pigtail receiver product series incorporates a hermetically sealed TO-46 header in which a transimpedance amplifier (TIA) and PIN photodiode are mounted. This receiver is designed for long wavelength, fiber optic data links operating up to 2.5 Gbps.

The RXP M DPGX 087 XX-000 series receivers are assembled in a rugged coaxial fiber pigtail package, with a choice of connector type. Standard choices for connector type FC/SC/LC with SPC/APC end faces are available.

Compliance

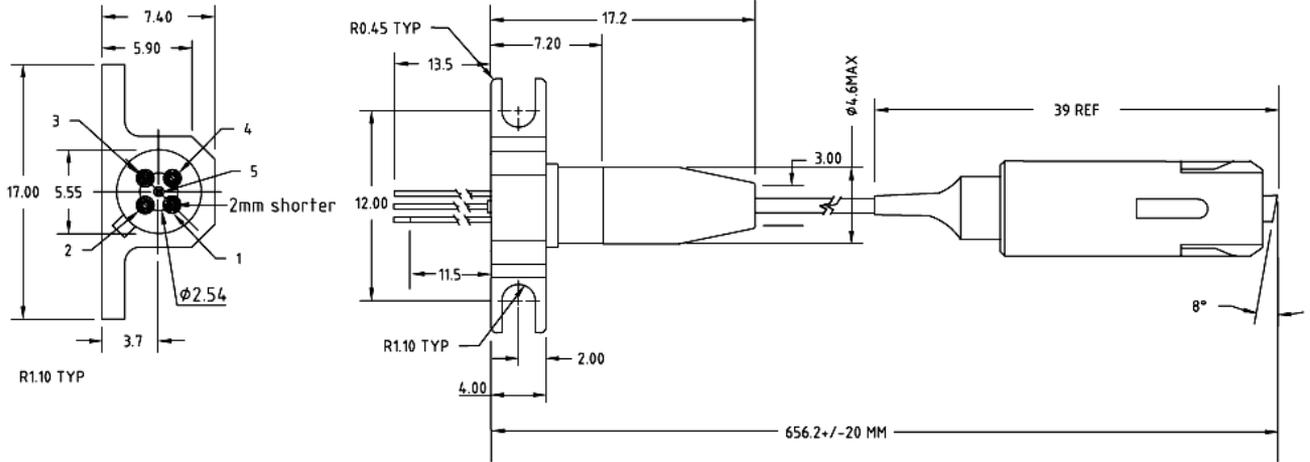
- Telcordia qualified, InGaAs PIN

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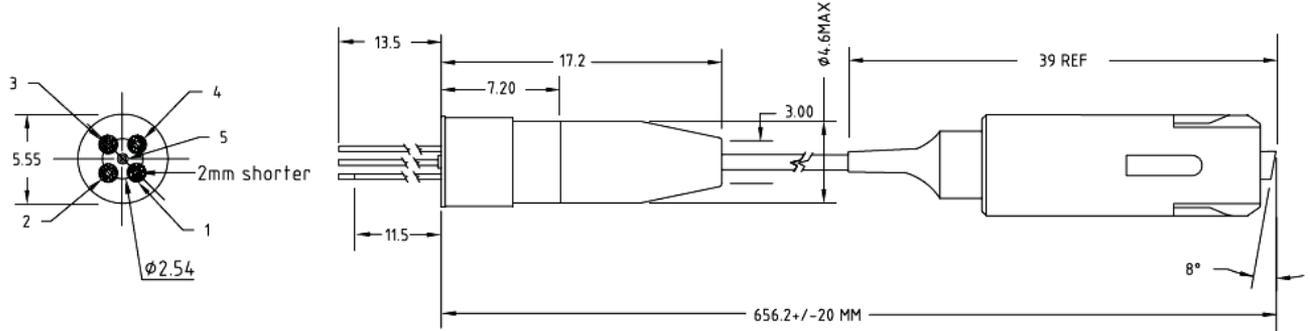
Dimensions Diagram

(Specifications in mm unless otherwise noted.)

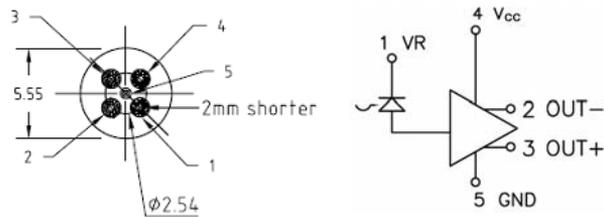
Standard, SC/APC connector



Without bracket, SC/APC connector



Electrical Schematics



Note: Compared with other pins, pin #1 has been shorted by 2 mm for orientation.

Pinout

Pin	Symbol	Description
1	VR	PD bias
2	OUT-	Negative output
3	OUT+	Positive output
4	Vcc	TIA bias
5	GND	Case ground

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Absolute Maximum Ratings

Parameter	Rating
Storage temperature	-40 to +85°C
Operating case temperature (T _{op})	-40 to +85°C
ESD threshold (HBM)	300 V
Maximum incident optical power	+6 dBm

Note: All specifications are at T_{op} = 25°C unless otherwise stated

Specifications

Parameter	Conditions	Minimum	Typical	Maximum
PD reverse bias voltage		1.8 V	2.5 V	5.0 V
Modulation bandwidth (-3 dB)	Pin = -20 dBm, Ref=200 MHz, single-ended, T _{op} =-40 to +85°C	1.8 GHz	2.0 GHz	-
TIA supply voltage		3.0 V	3.3 V	3.6 V
TIA supply current	V _{cc} =3.3 V, T _{op} =-40 to +85°C	-	44 mA	59 mA
AC transimpedance	Pin = -30 dBm, f=1.2 GHz, single-ended.	1.15 KΩ	1.80 KΩ	2.35 KΩ
Dark current	V _{pd} =-5 V	I _{dark}	-	10 nA
Output impedance		40 Ω	50 Ω	60 Ω
Sensitivity	2.488 Gbps, NRZ, PRBS=2 ²³⁻¹ , BER=10 ⁻¹⁰ , T _{op} =-40 to +85°C, ER >10 dB at 1550 nm	-	-26 dBm	-22.5 dBm
Responsivity	T _{op} =-40 to +85°C, at 1550 nm	-	0.88 A/W	-
Overload	2.488 Gbps, NRZ, PRBS=2 ²³⁻¹ , BER=10 ⁻¹⁰ , T _{op} =-40 to +85°C	0 dBm	-	-
Optical insertion loss	For connector	-	-	0.5 dB
Optical return loss		-	-	-30 dB

Note: All specifications are at T_{op} = 25°C and beginning of life unless otherwise stated

Electrostatic Discharge (ESD)

ESD protection is imperative. Use of grounding straps, antistatic mats, and other standard ESD protective equipment is required when handling or testing a junction photodiode. Fiber pigtail should be handled with less than 10 N pull and with bending radius greater than one inch. Soldering temperature of the leads should not exceed 260°C for more than 10 seconds.

Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide, or via e-mail at customer.service@jdsu.com.

Sample: RXP M DPG1 087 00 - 000

RXP M DPG 087 -000

Code	Connector
0	SC/APC-BW
1	FC/SPC connector
2	SC/SPC connector
3	LC/SPC connector
4	FC/APC connector
5	SC/APC connector
6	LC/APC connector

Code	Package
00	Without bracket
01	With MB14 bracket