

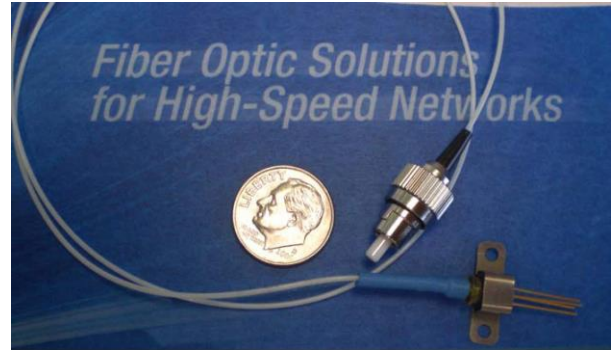
Product Specification

Analog Receiver, Pigtailed, PIN ROSA

PIN-1310-5I-50SMF-FCUPC

PRODUCT FEATURES

- High performance InGaAs PIN photodiode
- Wide operating temperature (-40°C to 85°C)
- 1260-1600 wavelength response
- Pigtailed package
- Data rates up to 6GHz analog bandwidth



APPLICATIONS

CATV analog receiver, satellite distribution networks, analog video

The PIN-1310-5I-50SMF-FCUPC is a high-performance InGaAs PIN photo-detector packaged to meet performance requirements of analog fiber applications.

The TO-46 component can is mounted inside an ultem coaxial package which is then pigtailed with a single-mode fiber and terminated with a fiber connector. The pigtail is 50cm long as standard, terminated with an FC/UPC connector. Other pigtail lengths or connector styles may be available - please contact your regional sales manager.

Applications include CATV and other analog network applications.

PRODUCT SELECTION

| Part Number | Description |
|-------------------------|---|
| PIN-1310-5I-50SMF-FCUPC | 1310 nm PIN Diode, 50cm single-mode pigtailed package, FC UPC connector |

I. Absolute Maximum Ratings

| Parameter | Rating |
|---------------------------------|-------------------------------|
| Storage Temperature | -40 to +85°C |
| Case Operating Temperature | -40* to +85°C |
| Lead Solder Temperature | 260°C, 10 sec. |
| PIN Reverse Voltage | 10V |
| PIN forward current | 2mA |
| ESD Exposure (Human Body Model) | 50V ¹ |
| Incident Optical Power | +6dBm average, +10dBm Peak |

Notice

Stresses greater than those listed under “Absolute Maximum Ratings” may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any other conditions above those indicated in the operations section for extended periods of time may affect reliability.

Notice

The inherent design of this component causes it to be sensitive to electrostatic discharge (ESD). To prevent ESD-induced damage and/or degradation to equipment, take normal ESD precautions when handling this product

II. Electro-Optical Characteristics

| Parameters | Test Condition | Symbol | Min. | Typ. | Max. | Units | Notes |
|---------------------------|---|-------------------------|------|------|------|-------|-------|
| Responsivity | $\lambda=1310\text{nm}$, $V_r=5\text{V}$ | R | 0.75 | 0.85 | | mA/mW | 1 |
| Capacitance | F-100kHz | C | 0.2 | 0.35 | 0.45 | pF | 2 |
| Wavelength Response | | λ_{RESP} | 1260 | 1310 | 1600 | nm | 3 |
| Dark Current | $V_r=5\text{V}$ | I_{dark} | | | 5 | nA | |
| PIN -3dB Bandwidth | Into 50Ω , -5V bias | BW | 6 | 7 | | GHz | 4 |
| Rise/Fall Time | P_o 0.1mWp-p | T_R/T_F | | 50 | 100 | ps | 5 |
| Maximum Fiber Input Power | $\lambda=1310\text{nm}$ | P_{max} | 3 | | | mW | |
| Optical Return Loss | | ORL | 23 | | | dB | |

Notes:

1. Responsivity is for the entire pigtailed assembly, measured at 1310nm.
2. Capacitance is measured at 5V reverse bias. The PIN structure is fully depleted at less than 2V reverse bias.
3. Photodiode may respond to wavelengths outside this range, but is not guaranteed to do so.
4. Bandwidth is measured using small signal analysis.
5. The rise and fall times are measured using a laser source with transition times less than 30ps (20-80%), and an average power of 0.5mW.

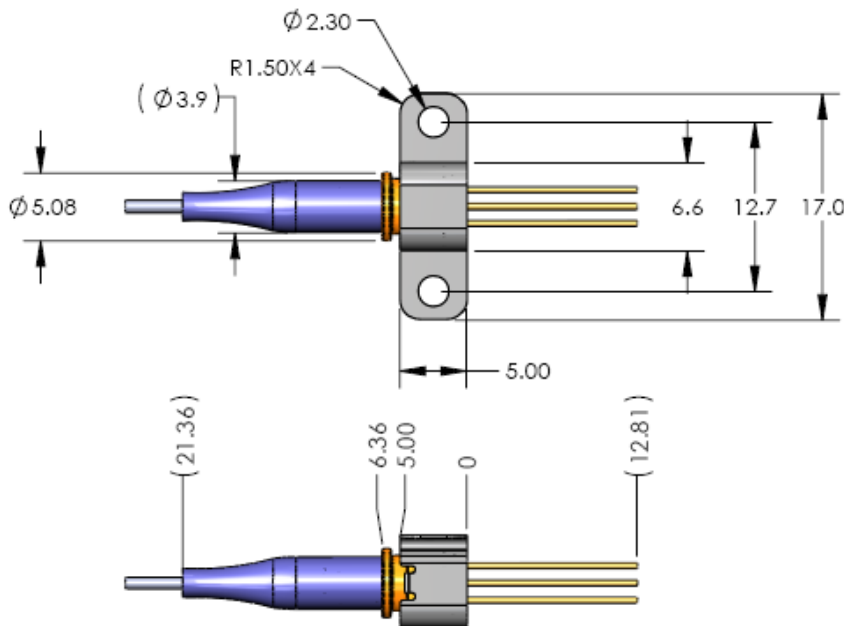
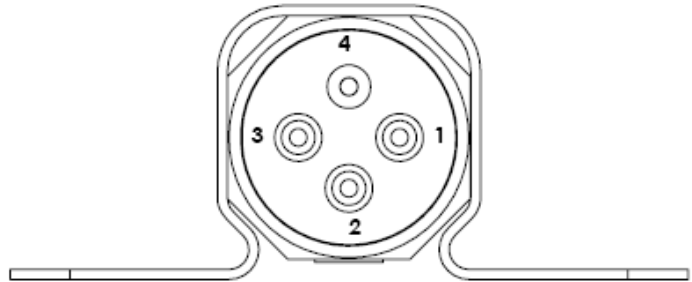
III. Environmental Specifications

| Parameter | Symbol | Min | Typ | Max | Units | Ref. |
|----------------------------|------------------|-----|-----|-----|-------|------|
| Case Operating Temperature | T _{op} | -40 | | 85 | °C | |
| Storage Temperature | T _{sto} | -40 | | 85 | °C | |

V. Mechanical Specifications

PIN HEADER PINOUT

| Number | Function |
|--------|-------------|
| 1 | PIN Cathode |
| 2 | PIN Anode |
| 3 | Open |
| 4 | Open/Case |



(dimensions are in mm)

VI. Revision History

| Revision | Date | Description |
|-----------------|-------------|---|
| A1 | 4/13/2013 | <ul style="list-style-type: none">• Document created. |
| B00 | 3/22/16 | <ul style="list-style-type: none">• Updated logo and changed min responsivity to 0.75 |

VII. For More Information

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