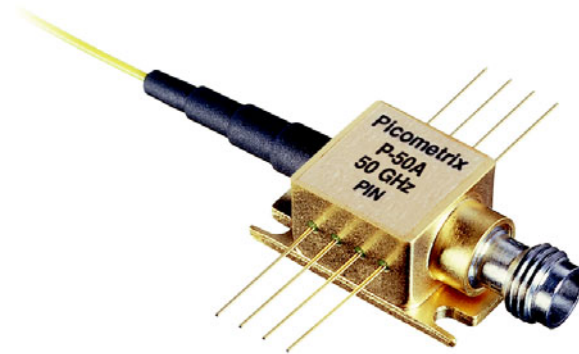


# P-50A

Product Bulletin (Target) • February 2002

- Ultrafast PIN detector module
- High bandwidth, 50 GHz
- 0.65 A/W responsivity
- 8 ps risetime
- Front-end for 40 Gb/s receivers
- 50  $\Omega$  internal termination



The **P-50A** is an ultrafast, InGaAs PIN photodetector designed as an O/E front-end for OC-768, 40 Gb/s, RZ and NRZ systems. The proprietary, back-illuminated semiconductor diode design optimizes speed and sensitivity for both 1310 nm and 1550 nm wavelengths, while the internal, ceramic waveguide design assures a clean pulse response necessary for low group-delay, time-domain, digital applications.

The detector is mounted in a compact 8-pin butterfly-style package with an Anritsu-V output connector with 50 $\Omega$  internal termination for low output VSWR, and standard single-mode input fiber. The hermetic module is Telcordia compliant.

## Specifications

|                                | Minimum | Typical | Maximum | Units    |
|--------------------------------|---------|---------|---------|----------|
| Wavelength range               | 1200    |         | 1650    | nm       |
| Bandwidth (-3dB electrical)    | 48      | 50      |         | GHz      |
| Low frequency cutoff           | DC      |         |         | kHz      |
| Risetime (10-90%)              |         | 8       |         | ps       |
| Overload                       | +3      |         |         | dBm      |
| Responsivity @ 1310 nm         | 0.55    | 0.65    |         | A/W      |
| Responsivity @ 1550 nm         | 0.5     | 0.6     |         | A/W      |
| Optical Return Loss            |         |         | -30     | dB       |
| Polarization Dep. Responsivity |         | 0.1     | 0.2     | dB       |
| Output termination             |         | 50      |         | $\Omega$ |

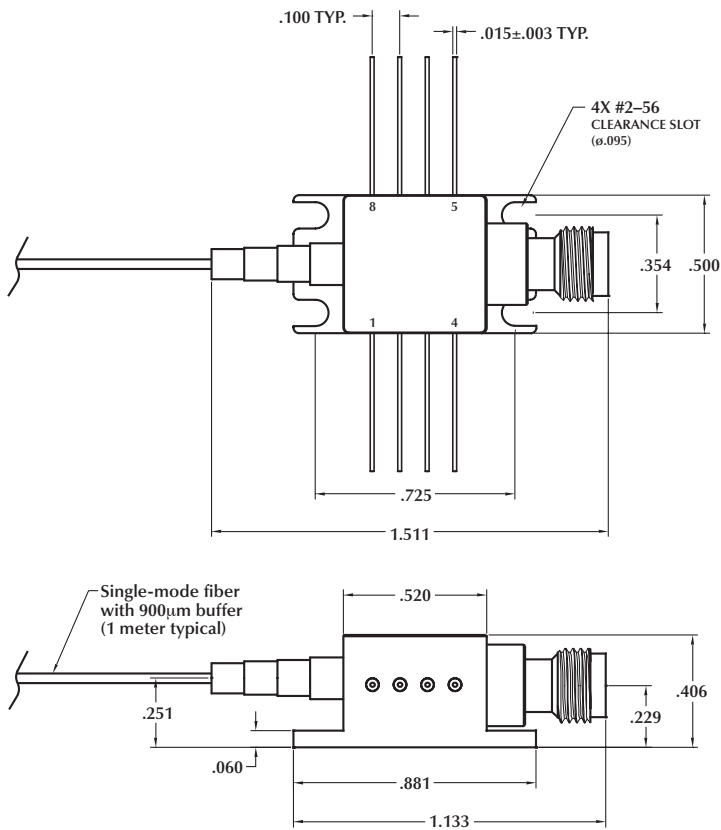
## DC Electrical

|                    |    |    |    |   |
|--------------------|----|----|----|---|
| Photodiode voltage | +4 | +5 | +6 | V |
|--------------------|----|----|----|---|

## Mechanical

|                       |                               |  |     |    |
|-----------------------|-------------------------------|--|-----|----|
| Package type          | 8-pin module with V connector |  |     |    |
| Operating temperature | -40                           |  | +85 | °C |
| Storage temperature   | -40                           |  | +85 | °C |

# Product Specifications



| Pin Description | Pin Description   |
|-----------------|-------------------|
| 1 NC            | 5 GND             |
| 2 NC            | 6 V <sub>PD</sub> |
| 3 NC            | 7 NC              |
| 4 GND           | 8 NC              |

## P-50A Ordering Information

| Base model                | P-50A                                       |
|---------------------------|---|
| Option format             | /Package/Output termination/Fiber connector |
| Package option            | 8V  |
| Output termination option | Z50   |
| Fiber connector options   | FC or SC                                    |

## Application Notes

Electrostatic discharge (ESD) will cause permanent damage to the product. Please avoid any ESD to the input pins or output connector. Use standard ESD protective equipment when handling this product.

Temperature and fiber restrictions are as follows:

Lead soldering: 250°C for no more than 10 seconds

Fiber feed-through tube: 120°C

Fiber pull force: 10 N

Fiber bending radius: 1 inch or less

Exceeding these conditions can cause permanent damage to the device.

## Quality Vision

As a leader in ultrafast optical receivers, Picometrix is committed to providing the highest quality ultrafast products on the market. This quality vision commits us to continually improving our product designs and manufacturing processes, in order to ensure the highest level of customer satisfaction. The company maintains a stringent quality control program to ensure that all products meet or surpass customer requirements.



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