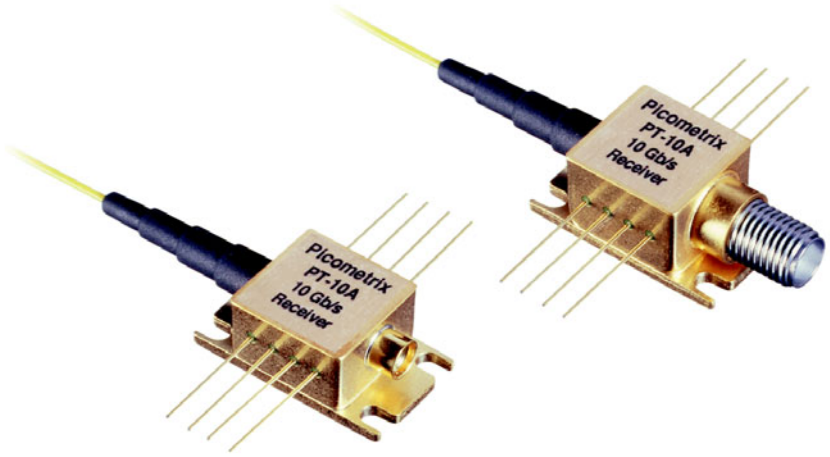
PT-10A

PICOMETRIX®

Product Bulletin (Preliminary) • February 2002

- PIN/TIA receiver module
- High data rate, up to 10.7 Gb/s
- High sensitivity, -19 dBm
- 1200–1650 nm wavelength range
- Compact 8-pin butterfly package
- SMA or GPO output connector



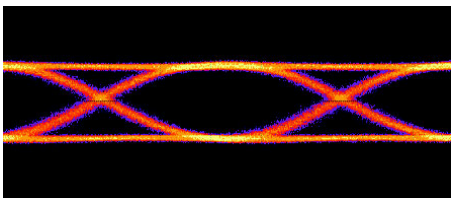
The **PT-10A** is a -19 dBm sensitivity, single-output receiver module for OC-192 / STM-64 transmission system receive applications up to 10.7 Gb/s. It couples a high responsivity (1 A/W), back-illuminated PIN photodiode, usable from 1200 nm to 1650 nm, with an internal transimpedance gain stage of 500 V/A. This combination produces a receiver with a 9 GHz bandwidth and conversion gain of 500 V/W.

The single-coaxial output module is available with either an SMA or GPO output connector in a compact, 8-pin butterfly package with single-mode fiber input. A single +8V power supply can be used. The receiver meets Telcordia GR-468 qualification standards.

Specifications	Minimum	Typical	Maximum	Units
Wavelength range	1200		1650	nm
Bandwidth (-3dB electrical)	8	9		GHz
Low frequency cutoff[1]	30			kHz
Sensitivity[2]		-19	-17	dBm
Overload	0	+1		dBm
Responsivity @ 1550 nm	0.9	1.0		A/W
Transimpedance gain	400	500		Ω
Output Return Loss (< 8 GHz)			-10	dB
Optical Return Loss			-30	dB
Power dissipation			0.9	W
DC Electrical				
Photodiode voltage	+8	+10	+15	V
Amplifier voltage	+7.6	+8	+8.5	V
Mechanical				
Package type		8-pin butterfly with SMA or GPO		
Operating temperature	0		+70	°C
Storage temperature	-50		+85	°C

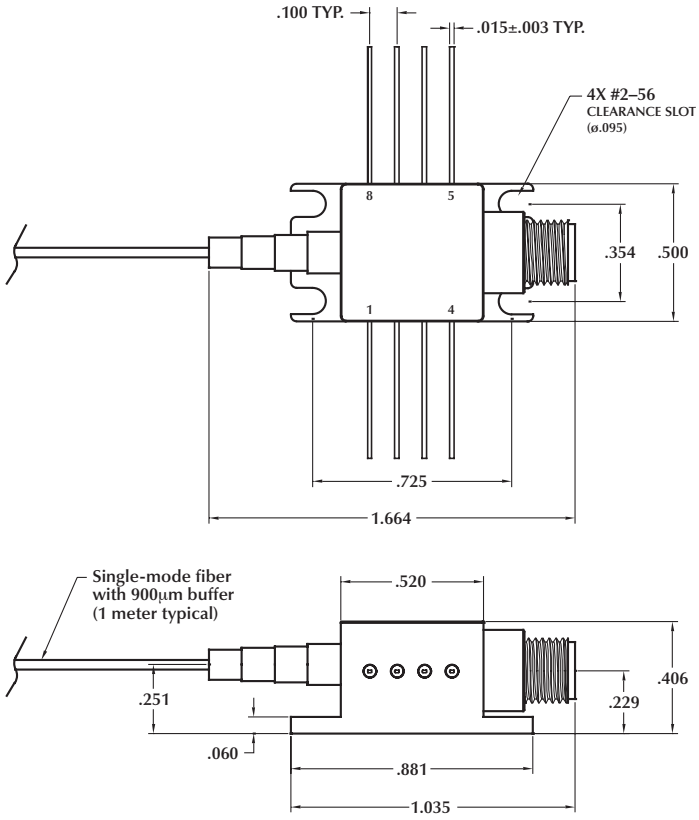
[1] Output is DC coupled

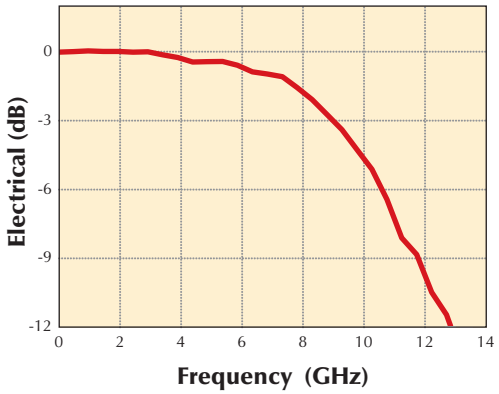
[2] 10^{-10} BER, PRBS 2^{23}-1



Eye pattern taken at 10 Gb/s data rate with -7 dBm optical input power.

Product Specifications





Pin	Description	Pin	Description
1	NC	5	NC
2	V_{PD}	6	NC
3	V_{POS}	7	NC
4	GND	8	NC

PT-10A Ordering Information

Base model	PT-10A
Option format	/Package/Fiber connector
Package options	8SMA or 8GPO
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.

PICOMETRIX®

Picometrix, Inc. • PO Box 130243
Ann Arbor, MI • 48113-0243
734-998-4501 • 734-998-3474 fax
www.picometrix.com

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