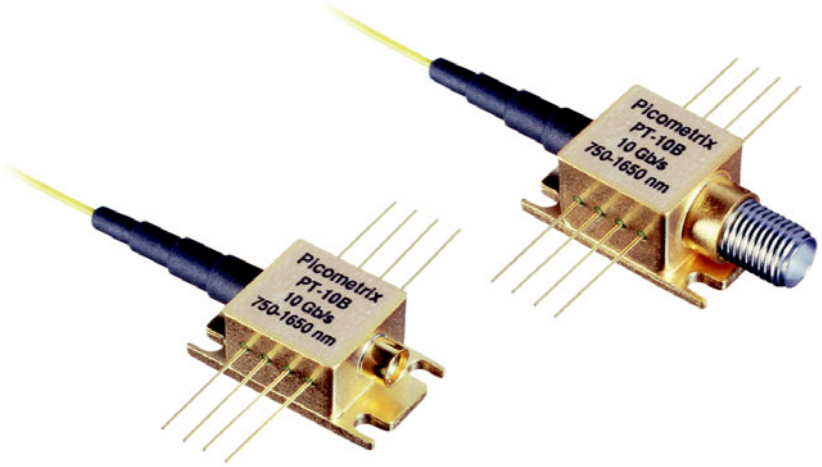
PT-10B

PICOMETRIX®

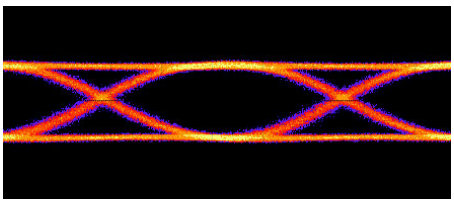
Product Bulletin (Preliminary) • February 2002

- PIN/TIA receiver
- High data rate, up to 10.7 Gb/s
- Broad wavelength range, 750–1650 nm
- 50 μm or 62.5 μm multimode fiber input with SC or FC
- High sensitivity, -17 dBm @ 850 nm
- GPO output connector



The **PT-10B** is a single-output receiver module for 10 Gb Ethernet, Fiber Channel and VSR OC-192 transmission system receive applications up to 10.7 Gb/s. It couples a high responsivity, front-illuminated PIN photodiode, usable from 750 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 450 V/W at 1310 nm.

The single-coaxial output module is available with either an SMAor GPO output connector in a compact, 8-pin butterfly package with multimode fiber input. The receiver meets Telcordia GR-468 qualification standards.



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

Specifications	Minimum	Typical	Maximum	Units
Wavelength range	750		1650	nm
Bandwidth (-3dB electrical)	8	9		GHz
Low frequency cutoff[1]	DC			kHz
Sensitivity @ 850 nm[2]		-17	-15	dBm
Sensitivity @ 1310 nm[2]		-20	-18	dBm
Overload @1310	0	+1		dBm
Responsivity @ 850nm	0.5	0.55		A/W
Responsivity @ 1310 nm	0.85	0.9		A/W
Transimpedance gain	400	500		Ω
Output Return Loss (< 8 GHz)		-12	-10	dB
Optical Return Loss			-14	dB
Power dissipation			1.0	W
DC Electrical				
Photodiode voltage	+9	+10	+12	V
Amplifier voltage	+7.75	+8	+8.25	V
Mechanical				
Package type			8-pin butterfly with GPO	
Operating temperature	0		+70	°C
Storage temperature	-40		+85	°C

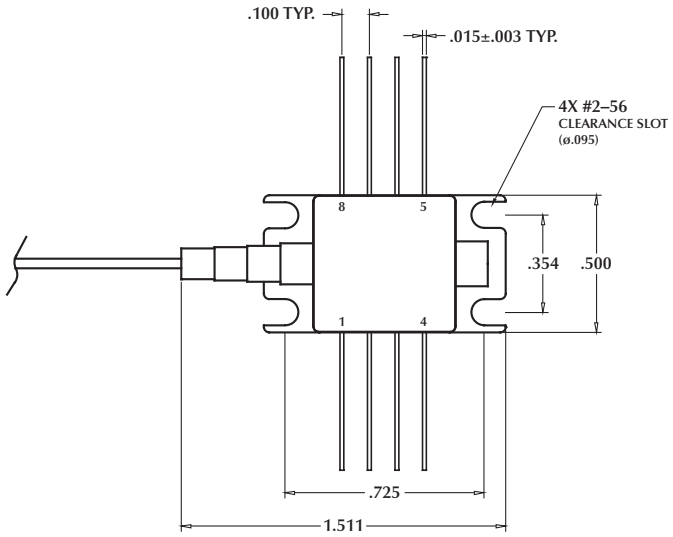
[1] Output is DC coupled

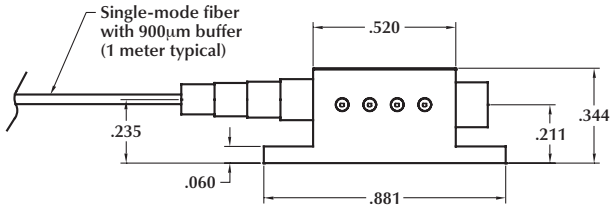
[2] 10^{-10} BER, PRBS 2^{23}-1

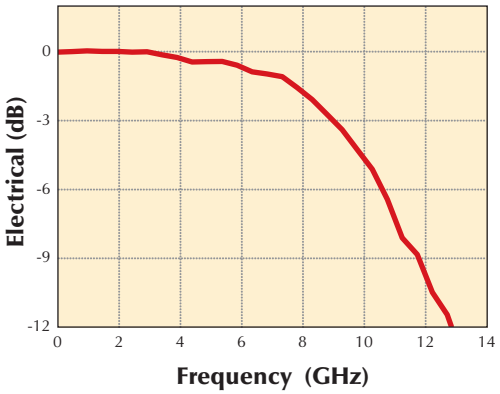
True DC Output Option

The **PT-10B** is available with optional dual power supplies, which enables adjustment and/or stabilization of the DC output to enable accurate extinction ratio measurements.

Product Specifications







Pin	Description	Pin	Description
1	NC (or DC Mon[1])	5	NC
2	V_{PD}	6	NC
3	V_{AMP}	7	NC
4	GND (or V_{NEG}[1])	8	NC

[1] If ordered with true DC output option

PT-10B Ordering Information

Base model	PT-10B
Option format	/Package/Fiber diameter/Fiber connector
Package option	8SMA or 8GPO
Fiber diameter options (µm)	50 or 62.5
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®

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