



Electro-Optics Technology, Inc.

Innovative High Quality Laser Solutions

HIGH SPEED Photodetectors



EOT's High Speed Photodetectors contain PIN photodiodes that utilize the photovoltaic effect to convert optical power into an electrical current.

When terminated into 50 Ω into an oscilloscope, the pulsewidth of a laser can be measured. When terminated into 50 Ω into a spectrum analyzer, the frequency response of a laser can be measured.

EOT's High Speed Photodetectors come with their own internal bias supply consisting of long-life lithium cells. Plugging a coaxial cable into the photodetector's SMA output connector and terminating into 50 Ω at the oscilloscope or spectrum analyzer is all that is required for operation.

FEATURES

- Small footprint
- Internal voltage bias
- DC to 22 GHz

OPTIONS

- External wall plug-in power supply available
- Fiber-coupled or free space options available
- Detector Material

APPLICATIONS

- Monitoring the output of Q-switched lasers
- Monitoring the output of mode-locked lasers
- Monitoring the output of externally modulated CW lasers
- High frequency, heterodyne applications
- Time domain and frequency response measurements

SPECIFICATIONS

Part No. (Model)	120-10058-0001 (ET-3500)	120-10068-0001 (ET-3500F)	120-10071-0001 (ET-4000)	120-10081-0001 (ET-4000F)	120-10105-0001 (ET-5000)	120-10104-0001 (ET-5000F)	120-10140-0001 (ET-3600)	120-10142-0001 (ET-3600F)
Detector Material	InGaAs	InGaAs	GaAs	GaAs	InGaAs	InGaAs	InGaAs	InGaAs
Rise Time/Fall Time	<25 ps/<25 ps	<25 ps/<25 ps	<30 ps/<30 ps	<30 ps/<30 ps	28 ps/28 ps	28 ps/28 ps	16 ps/16 ps	16 ps/16 ps
Responsivity ^a	>0.90 A/W at 1300 nm	>0.65 A/W at 1300nm	0.53 A/W at 830 nm	0.38 A/W at 830 nm	1.3 A/W at 2000 nm	0.95 A/W at 2000 nm	>0.70 A/W at 1300 nm	>0.70 A/W at 1300 nm
Power Supply	6 VDC	6 VDC	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC	3 VDC
Bandwidth	>15 GHz	>15 GHz	>12.5 GHz	>12.5 GHz	>12.5 GHz	>12.5 GHz	>22 GHz	>22 GHz
Active Area Diameter	32μm	32 μm	60 μm	60 μm	40 μm	40 μm	20 μm	20 μm
Dark Current	<3 nA	<3 nA	<0.5 nA	<0.5 nA	<1 μA	<1 μA	<1 nA	<1 nA
Acceptance Angle (1/2 angle)	15°	N/A	15°	N/A	20°	N/A	15°	N/A
Noise Equivalent Power ^b	20 pW/√Hz at 1300 nm	28 pW/√Hz at 1300 nm	35 pW/√Hz at 830 nm	45 pW/√Hz at 830 nm	15 pW/√Hz at 2000 nm	20 pW/√Hz at 2000 nm	26 pW/√Hz at 1300 nm	26 pW/√Hz at 1300 nm
Maximum Linear Rating CW	10 mW	10 mW	10 mW	10 mW	3 mA	3 mA	10 mW	10 mW
Mounting (Tapped Holes)	8-32 or M4	8-32 or M4	8-32 or M4	8-32 or M4	8-32 or M4	8-32 or M4	8-32 or M4	8-32 or M4
Output Connector	SMA	SMA	SMA	SMA	SMA	SMA	SMA	SMA
Fiber Optic Connection ^c	N/A	FC/UPC, SMF28e	N/A	FC/UPC, SMF28e	N/A	FC/UPC	N/A	FC/UPC, SMF28e

Product specifications are subject to change. All products are RoHS compliant.

^a Photodetectors have an internal 50 Ω termination. Responsivity data applicable to diode only. Detector output should be determined based on 1/2 the responsivity of that shown on graph.

^b Noise Equivalent Power (NEP) is determined via open circuit output.

^c Multi-mode fiber available. May limit bandwidth.

NOTE: All specifications apply for a 50 Ω termination unless otherwise noted.

