

# <10 GHz

## Photodetectors

EOT's <10 GHz Photodetectors contain PIN photodiodes that utilize the photovoltaic effect to convert optical power into an electrical current. When terminated into  $50\ \Omega$  into an oscilloscope, the pulsewidth of a laser can be measured. When terminated into  $50\ \Omega$  into a spectrum analyzer, the frequency response of a laser can be measured.

EOT's <10 GHz Photodetectors come with their own internal bias supply consisting of long-life lithium cells. Plugging a coaxial cable into the photodetector's BNC output connector and terminating into  $50\ \Omega$  at the oscilloscope or spectrum analyzer is all that is required for operation.



## FEATURES

- Small footprint
- Internal voltage bias
- DC to 2 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

Specifications						
Part No. (Model)	120-10011-0001 (ET-2030)	120-10028-0001 (ET-2040)	120-10133-0001 (ET-2060)	120-10134-0001 (ET-2070)	120-10034-0001 (ET-3000)	120-10050-0001 (ET-3010)
Detector Material	Silicon	Silicon	Silicon	Silicon	InGaAs	InGaAs
Rise Time/Fall Time	<30 ps/ <300 ps	<30 ns/ <30 ns	<32 ps/ <320 ps	3 ns/ 3 ns	<17 ps/ <175 ps	<17ps/ <175 ps
Responsivity	0.47 A/W at 830 nm	0.6 A/W at 830 nm	0.47 A/W at 830 nm	0.56 A/W at 830 nm	0.9 A/W at 1300 nm	0.9 A/W at 1300 nm
Power Supply	9 VDC	24 VDC	9 VDC	24 VDC	6 VDC	6 VDC
Bandwidth	>1.2 GHz	>25 MHz	>1.1 GHz	>118 MHz	>2 GHz	>2 GHz
Active Area Diameter	0.4 mm	4.57 mm	0.4 mm	2.55 mm	100 $\mu$ m	100 $\mu$ m
Acceptance Angle (1/2 angle) (nA)	<0.1	<10	<0.1	<10	<2.0	<3.0
Noise Equivalent Power	10°	60°	N/A <sup>1</sup>	50°	20°	N/A <sup>1</sup>
Maximum Linear Rating	<0.01 pW/ $\sqrt$ Hz	<0.09 pW/ $\sqrt$ Hz	<0.01 pW/ $\sqrt$ Hz	<0.10 pW/ $\sqrt$ Hz	<0.03 pW/ $\sqrt$ Hz	<0.03 pW/ $\sqrt$ Hz
Mounting	CW current: 3 mA Pulse current: 3 mA	CW current: 2 mA Optical input: 3 mW	CW current: 3 mA Optical input: 3 mA	CW current: 2.5 mA Pulse current: 15 mA	CW current: 5 mA	CW current: 5 mA
(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
Output Connector	BNC	BNC	BNC	BNC	BNC	BNC

## Notes:

1. Includes FC receptacle.

**Low Speed Detector Responsivity**