

Detectors

Power Meters

CCD Cameras

Optical Chopper

Beam Profilers & Extensions Sets

Spectrometers

Temperature Controller & Shutter

Filter Wheels

DET Series of High-Speed Photodetectors



Posts Not Included

Broad Bandwidth, High Gain, Low Noise

Features

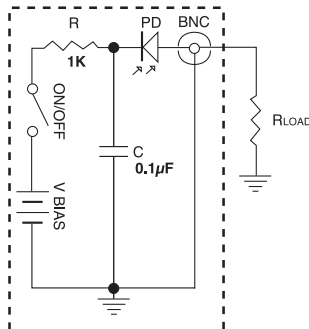
- High-Speed Response
- Wavelength Range of 150-2600nm
- Easy to Use
- Low-Profile Housing Minimizes Light Path Interference
- Includes Threaded Mount for Ø1" (25mm) Optics
- Compatible With SM1 & SM05 Series Products
- Battery-Level Check Included
- Internal A23 +12V Bias Battery Included

The DET series of photodetectors are compact, versatile, high-speed optical detectors. Each model comes complete with a fast PIN photodiode and an internal bias battery packaged in a rugged aluminum housing. With a wide-bandwidth, DC-coupled output, these detectors are ideal for monitoring fast-pulsed lasers as well as DC sources. The direct photodiode anode current is provided on a side panel BNC. This output is easily converted to a positive voltage using a terminating resistor.

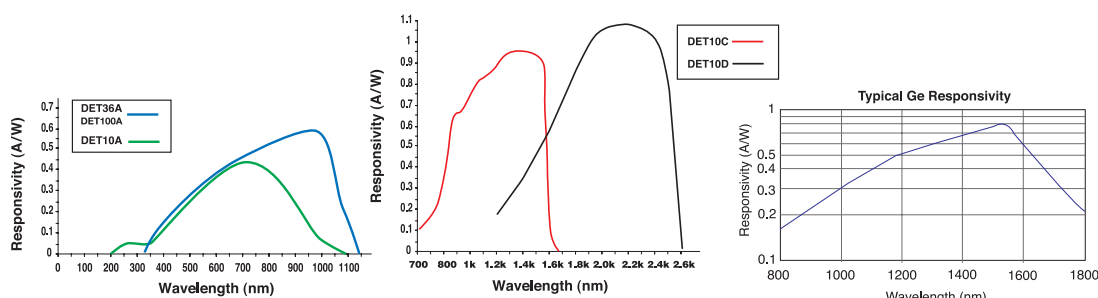
We recommend a 50Ω load resistance for fastest response times (see the T4119 shown below).

These photodetectors have a thin profile, enabling use in tight spaces. All connections and controls have been moved away from the light path. Each DET housing includes a detachable 1" lens tube coupler (SM1T1) to aid in the installation of neutral density filters, spectral filters, and lenses. The optical head is fully compatible with Thorlabs' SM1 Series and SM05 Series assemblies. Also available are fiber optic adapters for use with connectorized fiber.

Operating Circuit



TYPICAL SPECTRAL RESPONSIVITY



ITEM#	METRIC ITEM#	\$	£	€	RMB	TYPE	NEP ¹⁾ (W/√Hz)	RISE TIME	ACTIVE AREA	WAVELENGTH RANGE
DET25K	DET25K/M	\$ 189.00	£ 119.10	€ 175.80	¥ 1,805.00	GaP	1.6 x 10 ⁻¹⁴	1ns ²⁾	4.8 mm ² (2.2 x 2.2 mm)	150-550 nm
DET36A	DET36A/M	\$ 104.00	£ 65.50	€ 96.70	¥ 993.20	Si	1.6 x 10 ⁻¹⁴	14 ns (max)	13 mm ² (3.6 x 3.6 mm)	400-1100 nm
DET10A	DET10A/M	\$ 132.00	£ 83.20	€ 122.80	¥ 1,260.60	Si	1.9 x 10 ⁻¹⁴	1 ns (max)	0.8 mm ² (Ø1mm)	200-1100 nm
DET100A	DET100A/M	\$ 142.00	£ 89.50	€ 132.10	¥ 1,356.10	Si	5.5 x 10 ⁻¹⁴	43 ns (max)	75.4 mm ² (Ø9.8 mm) ⁴⁾	400-1100 nm
DET50B	DET50B/M	\$ 332.00	£ 209.20	€ 308.80	¥ 3,170.60	Ge	4 x 10 ⁻¹²	270 ns (typ)	19.6 mm ² (Ø5.0 mm)	800-1800 nm
DET10C	DET10C/M	\$ 274.00	£ 172.60	€ 254.80	¥ 2,616.70	InGaAs	1.6 x 10 ⁻¹⁴	10 ns (max)	0.8 mm ² (Ø1.0 mm)	700-1800 nm
DET10D	DET10D/M	\$ 458.00	£ 288.50	€ 425.90	¥ 4,373.90	InGaAs	2 x 10 ⁻¹²	25 ns (max)	0.8 mm ² (Ø1.0 mm)	1200-2600 nm

1) At peak response wavelength
2) Fall time: 140ns

3) 10ns maximum
4) Specific to Aperture size, detectors size is 10x10mm square

Terminators

See page 892 for full presentation.

50Ω Terminator
Ideal termination for DET Series of detectors to achieve maximum bandwidth.



T4119



Variable Terminator
Adjust from 50Ω to 50kΩ in discrete steps. See our website, www.thorlabs.com, for details.

ITEM#	\$	£	€	RMB	DESCRIPTION
T4119	\$ 35.00	£ 22.10	€ 32.60	¥ 334.30	In-Line Terminator
VT1	\$ 128.50	£ 81.00	€ 119.50	¥ 1,227.20	Variable Terminator

Replacement Batteries



T505



A23

The A23 battery is the replacement battery for the current DET series of photodetectors (see above). The T505 replaces batteries used in our older, discontinued detector series.

ITEM#	\$	£	€	RMB	VOLTAGE	USED WITH
A23	\$ 4.20	£ 2.65	€ 3.90	¥ 40.10	12V	DET Series
T505	\$ 15.70	£ 9.90	€ 14.60	¥ 149.90	22.5V	DET1-SI & DET2-SI