

# High-Speed Photodetectors



Posts Not Included

## Broad Bandwidth, High Gain, Low Noise

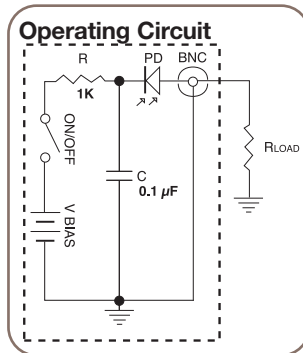
### Features

- Rise Times as Low as 1 ns
- Detectors for 150-2600 nm
- Low-Profile Housing (2.1" x 2.8" x 1.9")
- Includes Threaded Mount for Ø1" (Ø25 mm) Optics
- Compatible with SM1- and SM05-Threaded Components
- Battery-Level Check Included
- Internal A23 +12 V Bias Battery Included

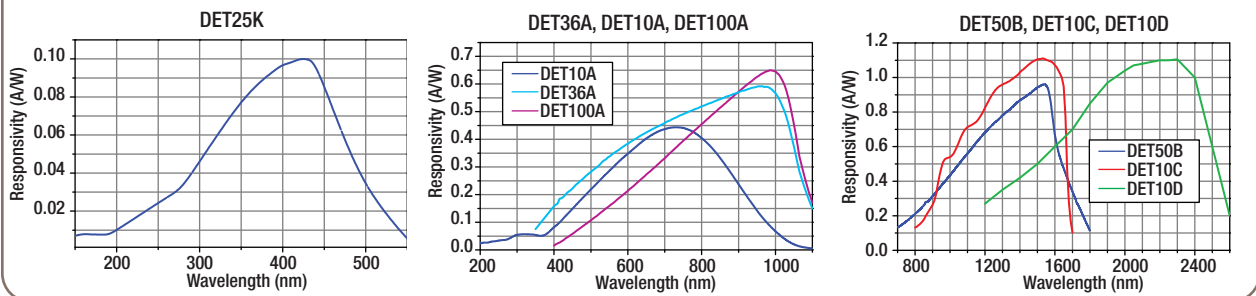
The DET series of photodetectors are compact, versatile, high-speed optical detectors. Each model comes complete with a fast PIN photodiode and an internal bias battery, packaged in a rugged aluminum housing. With a wide-bandwidth, DC-coupled output, these detectors are ideal for monitoring fast pulsed 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 50 Ω load resistance for fastest response times such as the T4119 shown on the following page.

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 Ø1" lens tube coupler (SM1T1) to aid in the installation of neutral density filters, spectral filters, and lenses. The optical head is compatible with Thorlabs' SM05- and SM1-threaded components such as lens tubes and cage systems. Compatible fiber optic adapters are available on page 304.



### Typical Spectral Responsivity



ITEM#	METRIC ITEM#	\$	£	€	RMB	TYPE	NEP <sup>a</sup> (W/√Hz)	RISE TIME	ACTIVE AREA	WAVELENGTH RANGE
DET25K	DET25K/M	\$ 194.90	£ 135.20	€ 173.10	¥ 1,645.80	GaP	$1.6 \times 10^{-14}$	1 ns <sup>b</sup>	4.8 mm <sup>2</sup> (2.2 x 2.2 mm)	150-550 nm
DET36A	DET36A/M	\$ 107.10	£ 74.30	€ 95.10	¥ 904.40	Si	$1.6 \times 10^{-14}$	14 ns (Max)	13 mm <sup>2</sup> (3.6 x 3.6 mm)	350-1100 nm
DET10A	DET10A/M	\$ 139.40	£ 96.70	€ 123.80	¥ 1,177.10	Si	$1.9 \times 10^{-14}$	1 ns (Max)	0.8 mm <sup>2</sup> (Ø1 mm)	200-1100 nm
DET100A	DET100A/M	\$ 143.40	£ 99.50	€ 127.40	¥ 1,210.90	Si	$5.5 \times 10^{-14}$	43 ns (Max)	75.4 mm <sup>2</sup> (Ø9.8 mm) <sup>c</sup>	400-1100 nm
DET50B	DET50B/M	\$ 341.40	£ 236.70	€ 303.10	¥ 2,882.80	Ge	$4 \times 10^{-12}$	440 ns (Max)	19.6 mm <sup>2</sup> (Ø5.0 mm)	800-1800 nm
DET10C	DET10C/M	\$ 276.70	£ 191.90	€ 245.70	¥ 2,336.50	InGaAs	$1.6 \times 10^{-14}$	10 ns (Max)	0.8 mm <sup>2</sup> (Ø1.0 mm)	700-1800 nm
DET10D	DET10D/M	\$ 462.60	£ 320.70	€ 410.70	¥ 3,906.30	InGaAs	$2 \times 10^{-12}$	25 ns (Max)	0.8 mm <sup>2</sup> (Ø1.0 mm)	1200-2600 nm

<sup>a</sup> At peak response wavelength

<sup>b</sup> Fall time: 140 ns

<sup>c</sup> Based on the aperture size; detector size is 10 mm x 10 mm square

## Replacement Batteries NEW products

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.

The DET1A AC Power Adapter is a replacement for the battery on our DET line of detectors that allows the DETs to be used with our LDS2 9 V Power Supply. The DET1B kit includes both the DET1A and LDS2.



ITEM#	\$	£	€	RMB	VOLTAGE	USED WITH
A23	\$ 4.30	£ 3.00	€ 3.90	¥ 36.40	12 V	DET Series
T505	\$ 16.10	£ 11.20	€ 14.30	¥ 136.00	22.5 V	DET1-SI and DET2-SI
DET1B	\$ 99.00	£ 68.70	€ 87.90	¥ 836.00	—	Any DET
DET1A	\$ 19.40	£ 13.50	€ 17.30	¥ 163.90	—	Any DET
LDS2	\$ 83.10	£ 57.70	€ 73.80	¥ 701.70	9 V	DET1A
SBP20	\$ 73.00	£ 50.70	€ 64.90	¥ 616.50	20 V	Replacement Battery Pack for SV2-FC, SIR5-FC