

High-Speed Photodetectors

Broad Bandwidth, High Gain, Low Noise

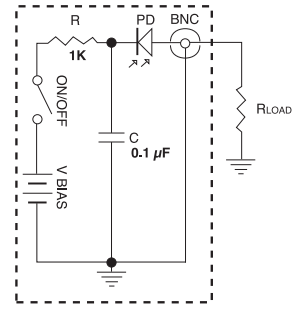


Posts Not Included

Features

- Rise Times as Low as 1 ns
- Detectors for 150 - 2600 nm
- Low-Profile Housing 2.8" x 1.9" x 1.0" (70 mm x 48 mm x 26 mm)
- 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

Operating Circuit

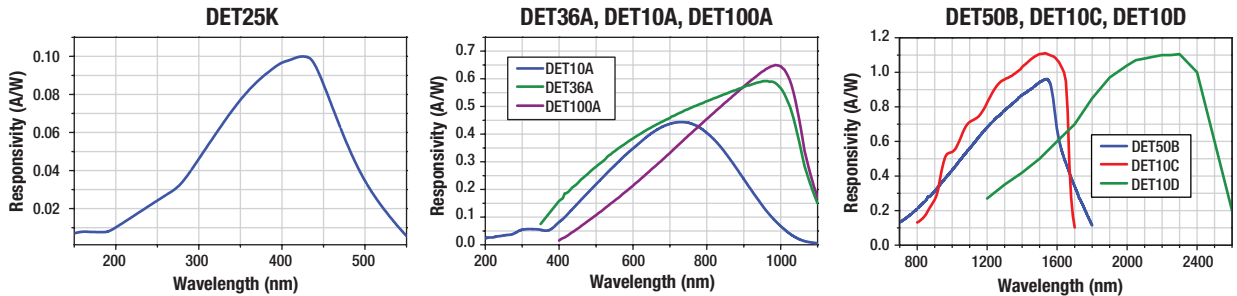


The DET series of photodetectors are compact, versatile, high-speed optical detectors. Each model comes with a fast PIN photodiode and an internal bias battery, packaged in a rugged aluminum housing. With a broad bandwidth, DC-coupled output, these detectors are ideal for monitoring fast pulsed lasers 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. For fastest response times, we recommend a 50 Ω load resistance such as the T4119 found on page 1640.

These photodetectors have a thin profile, with all connections and controls away from the light path enabling use in tight spaces. 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 aperture mount is compatible with Thorlabs' SM05- and SM1-threaded components such as lens tubes and cage systems. Compatible fiber optic adapters are available on page 1574.



Typical Spectral Responsivity



ITEM #	METRIC ITEM #	\$	£	€	RMB	TYPE	NEP _a (W/√Hz)	RISE TIME	ACTIVE AREA	WAVELENGTH RANGE
DET25K	DET25K/M	\$ 239.00	£ 172.08	€ 207.93	¥ 1,904.83	GaP	1.6 x 10 ⁻¹⁴	1 ns ^b	4.8 mm ² (2.2 x 2.2 mm)	150 - 550 nm
DET36A	DET36A/M	\$ 112.00	£ 80.64	€ 97.44	¥ 892.64	Si	1.6 x 10 ⁻¹⁴	14 ns (Max)	13 mm ² (3.6 x 3.6 mm)	350 - 1100 nm
DET10A	DET10A/M	\$ 145.00	£ 104.40	€ 126.15	¥ 1,155.65	Si	1.9 x 10 ⁻¹⁴	1 ns (Max)	0.8 mm ² (Ø1 mm)	200 - 1100 nm
DET100A	DET100A/M	\$ 149.00	£ 107.28	€ 129.63	¥ 1,187.53	Si	5.5 x 10 ⁻¹⁴	43 ns (Max)	75.4 mm ² (Ø9.8 mm) ^c	400 - 1100 nm
DET50B	DET50B/M	\$ 389.00	£ 280.08	€ 338.43	¥ 3,100.33	Ge	4 x 10 ⁻¹²	440 ns (Max)	19.6 mm ² (Ø5.0 mm)	800 - 1800 nm
DET10C	DET10C/M	\$ 276.70	£ 199.22	€ 240.73	¥ 2,205.30	InGaAs	1.6 x 10 ⁻¹⁴	10 ns (Max)	0.8 mm ² (Ø1.0 mm)	700 - 1800 nm
DET10D	DET10D/M	\$ 469.30	£ 337.90	€ 408.29	¥ 3,740.32	InGaAs	2 x 10 ⁻¹²	25 ns (Max)	0.8 mm ² (Ø1.0 mm)	1200 - 2600 nm

^a At peak response wavelength

^b Fall time: 140 ns

^c Based on the aperture size; detector size is 10 mm x 10 mm square

Replacement Batteries

- A23 is the replacement battery for the current DET series of photodetectors presented above.
- T505 is the replacement battery used in our older, discontinued detector series.
- SBP20 is the replacement battery used in the SV2-FC and SIR5-FC Fiber Optic Detector Packages presented on page 1571.
- DET1B: an AC Adapter (including power supply) that serves as a replacement for the battery in our DET line of detectors.



T505



A23



SBP20



DET1B (Adapter & Power Supply)

ITEM #	\$	£	€	RMB	VOLTAGE	USED WITH
A23	\$ 4.60	£ 3.31	€ 4.00	¥ 36.66	12 V	DET Series
T505	\$ 16.10	£ 11.59	€ 14.01	¥ 128.32	22.5 V	DET1-SI and DET2-SI
SBP20	\$ 73.00	£ 52.56	€ 63.51	¥ 581.81	20 V	Replacement Battery Pack for SV2-FC and SIR5-FC
DET1B	\$ 119.00	£ 85.68	€ 103.53	¥ 948.43	9 V	Any DET