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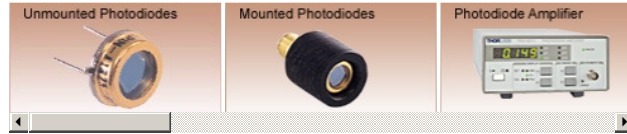
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**Calibrated Photodiodes**

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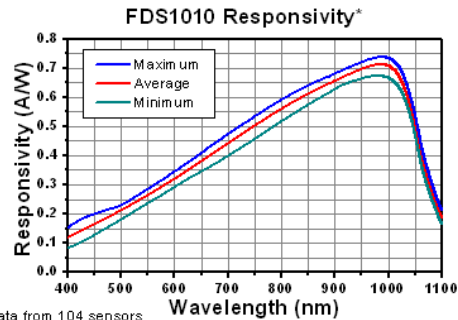
Thorlabs offers five photodiodes, with NIST traceable calibration, that ship from stock. These include one Indium Gallium Arsenide (InGaAs), two Silicon (Si), and two Germanium (Ge) photodiodes.

**Calibration Features:**

- Responsivity Measured Every 10 nm Over the Spectral Range of the Photodiode
- Measurement Uncertainty ±5%
- NIST Traceable

Each photodiode comes with its own data table and graph of the responsivity vs wavelength.

The responsivity of a particular photodiode varies from lot to lot. Due to this, the photodiode you receive may have a slightly different response than what is represented below, but will include calibration data. To the right, a graph for the FDS1010 photodiode shows how significantly you can expect the response to vary. Data was collected from 104 photodiodes. Minimum, Average, and Maximum responsivity was calculated at each data point and has been plotted.



\*Data from 104 sensors

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Please note that inhomogeneities at the edges of the active area of the detector can generate unwanted capacitance and resistance effects that distort the time-domain response of the photodiode output. Thorlabs therefore recommends that the incident light on the photodiode is well centered on the active area. This can be accomplished by placing a [focusing lens](#) or [pinhole](#) in front of the detector element.

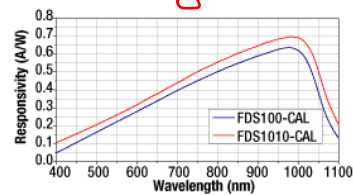
**Si Photodiodes with NIST Traceable Calibration**

[Zoom](#)



Two NIST traceable calibrated Si photodiodes are available from stock. Si photodiodes are sensitive across the visible and into the near infrared spectrum. The FDS100-CAL and FDS1010-CAL are both large area Si photodiodes and are packaged in a can and on a square ceramic substrate respectively. For detailed information about their specifications please see the Specs tab.

[FDS100-CAL Responsivity Data](#),  
[FDS1010-CAL Responsivity Data](#)



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Item #	Wavelength	Active Area	Rise/Fall Time*	NEP**	Dark Current	Package	V <sub>bias,max</sub>	Pin Configuration
FDS100-CAL	350 - 1100 nm	3.6 x 3.6 mm	10 ns @ 20 V	1.2x10 <sup>-14</sup> W/Hz <sup>1/2</sup>	20 nA max (20 V)	Ø0.36" Can	25 V	
FDS1010-CAL	400 - 1100 nm	9.7 x 9.7 mm	45 ns @ 5 V	5.5x10 <sup>-14</sup> W/Hz <sup>1/2</sup>	0.6 µA max (5 V)	0.45" x 0.52" Ceramic Wafer	20 V	

\*R<sub>i</sub> = 50 Ohms

\*\*At 900 nm

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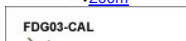
Based on your currency / country selection, your order will ship from our European warehouse

+1QTY	Docs	Part Number - Universal/Imperial	Price	Available/Ship
<input type="text" value="1"/>		<a href="#">FDS100-CAL</a> - Calibrated Si Photodiode, 350-1100 nm, 3.6 x 3.6 mm Active Area	€ 127,54	✓ Today
<input type="text" value="1"/>		<a href="#">FDS1010-CAL</a> - Calibrated Si Photodiode, 400-1100 nm, 9.7 x 9.7 mm Active Area	€ 153,38	✓ Today

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**Ge Photodiodes with NIST Traceable Calibration**

[Zoom](#)

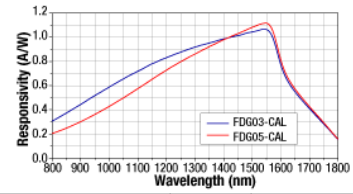


Two NIST traceable calibrated Ge photodiodes are available from stock. Ge photodiodes are sensitive in the near infrared spectrum from 800 - 1800 nm. The FDG03-CAL and FDG05-CAL are AR Coated for 1300 to 1550 nm and are packaged in a can and

on a square ceramic substrate respectively. For detailed information about their specifications please see the Specs tab.

[FDG03-CAL Responsivity Data](#),  
[FDG05-CAL Responsivity Data](#)

*ge* →



Item #	Wavelength	Active Area	Rise/Fall Time*	NEP**	Dark Current	Package	V <sub>bias,max</sub>	Pin Configuration
FDG03-CAL	800 - 1800 nm	Ø3 mm	500 ns @ 3 V	1.0x10 <sup>-12</sup> W/Hz <sup>1/2</sup>	4.0 µA max (1 V)	Ø0.36" Can	3 V	
FDG05-CAL	800 - 1800 nm	Ø5 mm	220 ns @ 5 V	4.0x10 <sup>-12</sup> W/Hz <sup>1/2</sup>	40 µA max (3 V)	0.275" x 0.310" Ceramic Wafer	5 V	

\*R<sub>i</sub> = 50 Ohms  
 \*\*At 1550 nm

Order

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+1QTY	Docs	Part Number - Universal/Imperial	Price	Available/Ships
<input type="text" value="1"/>		<a href="#">FDG03-CAL</a> - Calibrated Ge Photodiode, 800-1800 nm, Ø3.0 mm Active Area	€ 235,77	✓ Today
<input type="text" value="1"/>		<a href="#">FDG05-CAL</a> - Calibrated Ge Photodiode, 800-1800 nm, Ø5.0 mm Active Area	€ 325,38	✓ Today

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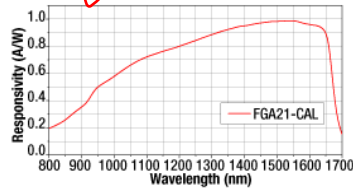
**InGaAs Photodiode with NIST Traceable Calibration**

[Zoom](#)



One NIST traceable calibrated InGaAs photodiode is available from stock. InGaAs photodiodes are sensitive in the near infrared spectrum from 800 to 1700 nm. The FGA21-CAL has a PIN structure that results in fast zero bias Rise / Fall times. For detailed information about its specifications please see the Specs tab.

[FGA21-CAL Responsivity Data](#)



Item #	Wavelength	Active Area	Rise/Fall Time*	NEP**	Dark Current	Package	V <sub>bias,max</sub>	Pin Configuration
FGA21-CAL	800 - 1700 nm	Ø2 mm	66 ns @ 0 V	3.0x10 <sup>-14</sup> W/Hz <sup>1/2</sup>	200 nA max (1 V)	Ø0.36" Can	3 V	

\*R<sub>i</sub> = 50 Ohms  
 \*\*At 1550 nm

Order

Based on your currency / country selection, your order will ship from our European warehouse

+1QTY	Docs	Part Number - Universal/Imperial	Price	Available/Ships
<input type="text" value="1"/>		<a href="#">FGA21-CAL</a> - Calibrated InGaAs Photodiode, 800-1700 nm, Ø2.0 mm Active Area	€ 309,72	✓ 2-3 Days

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