Silicon Photodetectors

Silicon Photodetectors contain PIN photodiodes that utilize the photovoltaic effect to convert optical power into an electrical current. When terminated into 50Ω into an oscilloscope, the pulsewidth of a laser can be measured. When terminated into 50Ω into a spectrum analyzer, the frequency response of a laser can be measured. Silicon 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 50Ω at the oscilloscope or spectrum analyzer is all that is required for operation.

Applications:

- Monitoring the output of Q–switched lasers
- Monitoring the output of mode–locked lasers
- Monitoring the output of externally modulated CW lasers
- Time domain and frequency response measurements

Features:

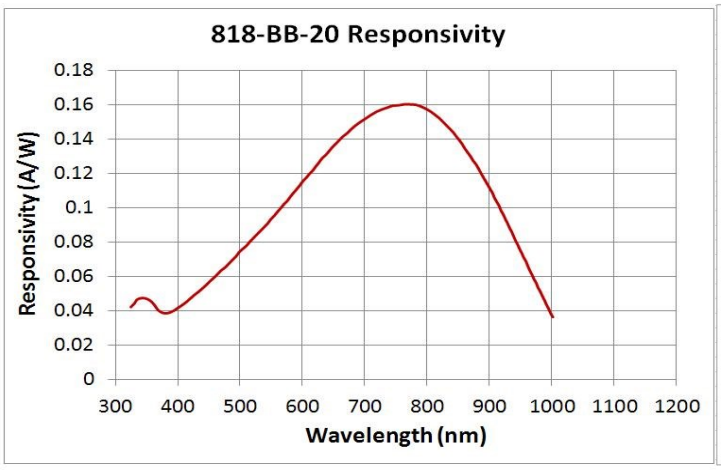
- Silicon photodetectors can be ordered with optional wall plug–in power supply

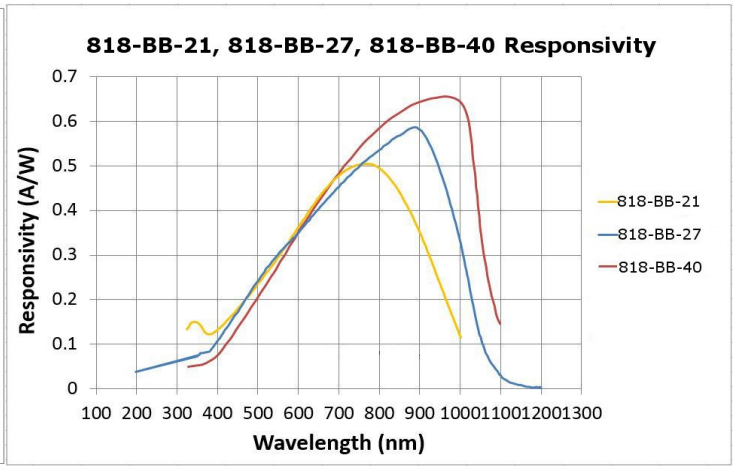
Specifications[a]:

Part No. (Model)	120–10001–0001 (818–BB–20)	120–10012–0001 (818–BB–21)	120–10029–0001 (818–BB–40)	120–10135–0001 (818–BB–27)
Rise Time/Fall Time	<350ps/<350ps	<300ps/<300ps	<30ns/<30ns	3ns/3ns
Responsivity at 830nm	0.12mA/W	0.47A/W	0.6A/W	0.56A/W
Power Supply	3VDC	9VDC	24VDC	24VDC
Spectral Range	350–1100nm	350–1100nm	350–1100nm	200–1100nm
Bandwidth	>1.0GHz	>1.2GHz	>25MHz	>118MHz
Active Area Diameter	110µm x 55µm	0.4mm	4.57mm	2.55mm
Dark Current	<0.11nA	<0.1nA	<10nA	<10nA
Acceptance Angle (1/2 angle)	20°	10°	60°	50°
Noise Equivalent Power	<0.15pW/√Hz	<0.01pW/√Hz	<0.09pW/√Hz	0.10pW/√Hz
Maximum Linear Rating	CW current: 20mA Energy per 10ns pulse: 20µJ	CW current: 3mA Pulse current: 3mA	CW current: 2mA Optical input: 3mW	CW current: 2.5mA Pulse current: 15mA
Mounting (Tapped Holes)	8–32 or M4	8–32 or M4	8–32 or M4	8–32 or M4
Output Connector	BNC	BNC	BNC	BNC

[a] Product specifications are subject to change.

Note: All products are RoHS compliant.





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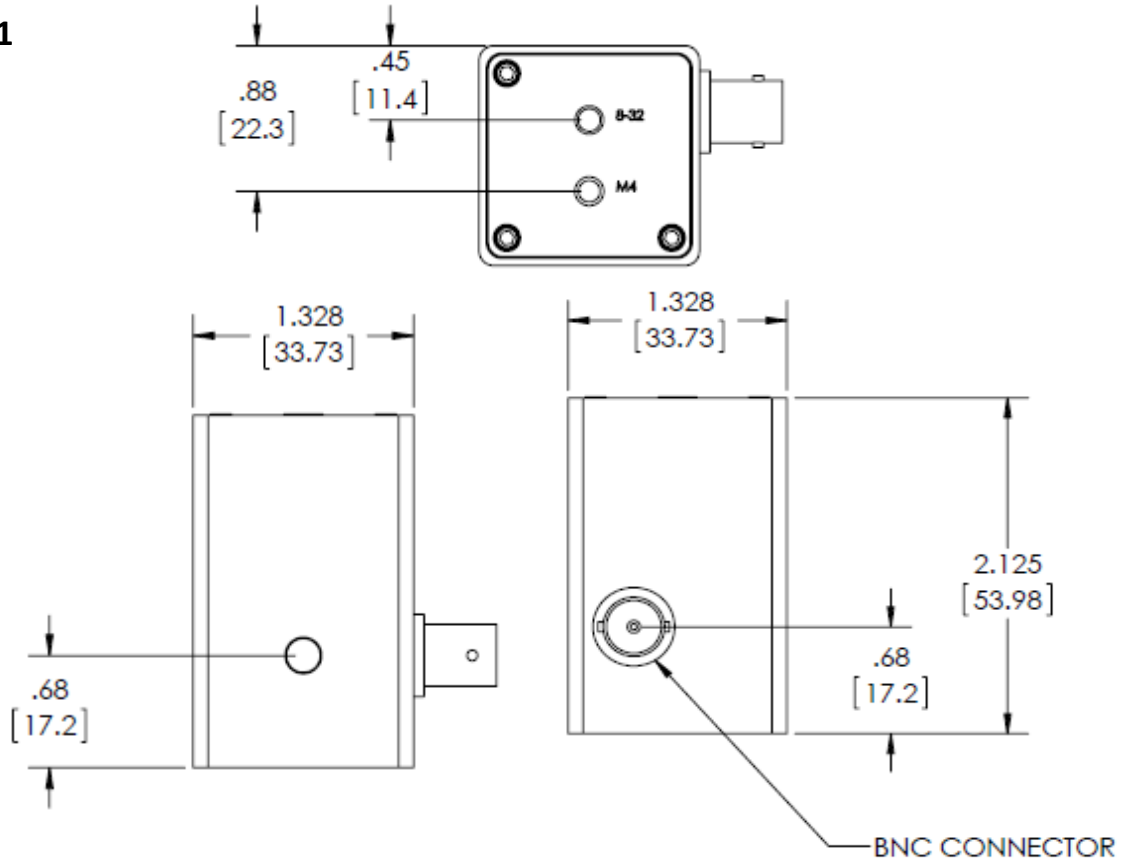
818-BB-20, 818-BB-21

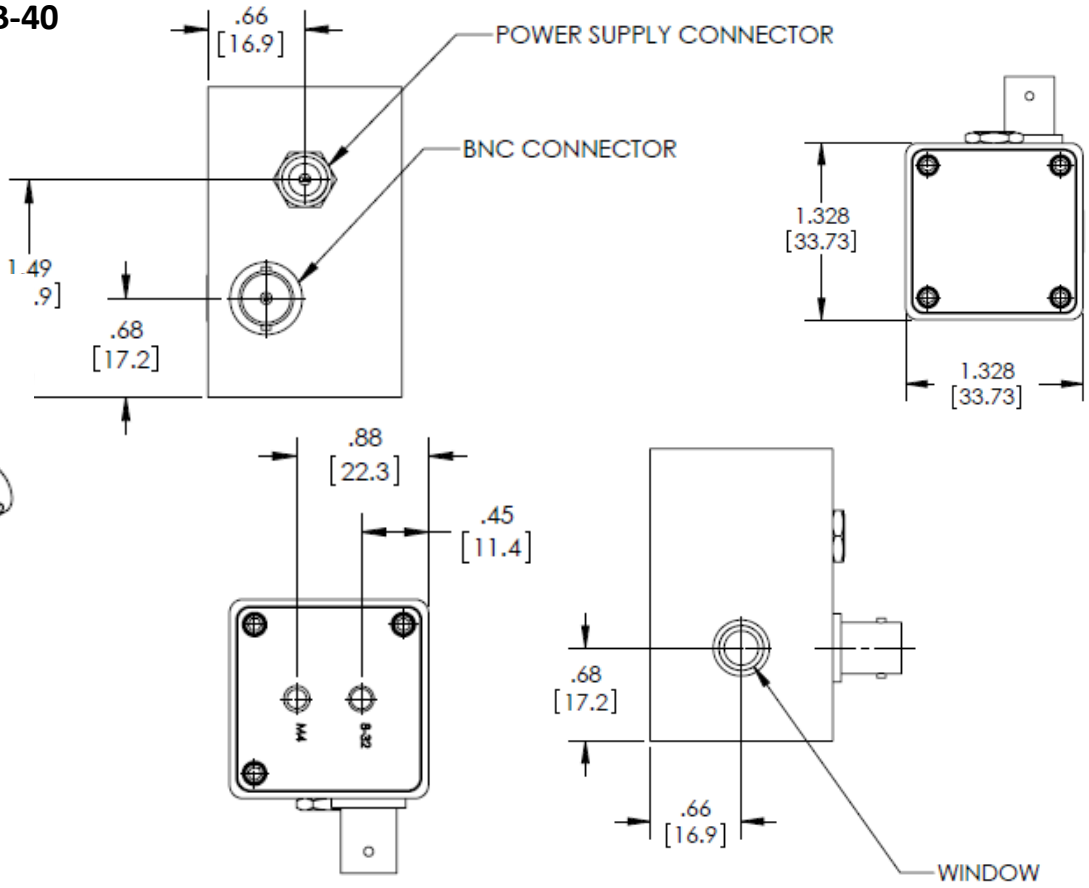
Dimensions[a]:



[a] All dimensions in inches

818-BB-27, 818-BB-40

Dimensions[a]:



[a] All dimensions in inches

(06/18/2015)