

PDB-C107

Silicon Photodiode

The PDB-C107 is a 17.9mm2 silicon photodiode designed for applications requiring a large active area photodiode with low capacitance and high-speed response time. The device is packaged on a 2-pin ceramic with clear glob top epoxy.

Applications

- Industrial
- Instrumentation
- Medical

Features

- Low Noise, High Shunt Resistance
- Visible-NIR Sensitive
- Large Active Area
- High Speed Response Time
- 2-pin Ceramic

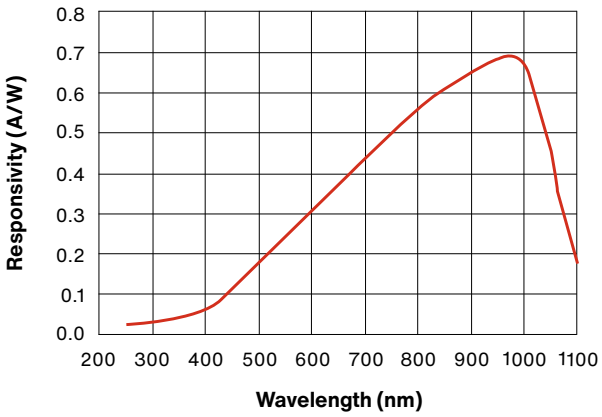
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	V_R	-	75	V
Wavelength Range	-	350	1100	nm
Operating Temperature	T_{OP}	-40	+100	°C
Storage Temperature	T_{STG}	-55	+100	°C
Package		Ceramic		

Typical Electro-Optical Specifications at T_A=23 °C

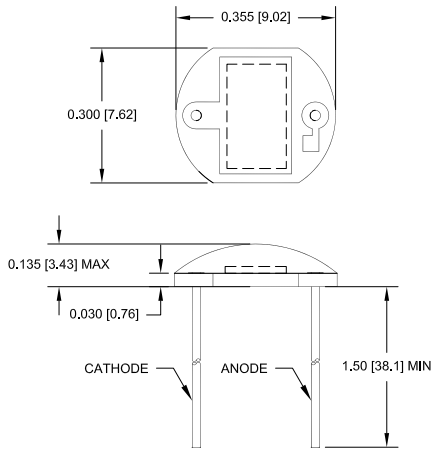
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Short Circuit Current	H=100 fc, 2859K	I_{SC}	150	-	-	µA
Dark Current	V_R=5V	I_D	-	150	300	nA
Shunt Resistance	V_R=10mV	R_{SH}	200	-	-	MΩ
Junction Capacitance	V_R=10V;f=1MHz	C_J	-	100	-	pF
Responsivity	λ=900nm V, V_R=0V	-	0.55	0.60	-	A/W
Breakdown Voltage	I=10µA	V_{BD}	50	100	-	V
Noise Equivalent Power	V_R=0V @ λ=Peak	NEP	-	$4x10^{-13}$	-	W/ √ Hz
Response Time	R_L=50KΩ, V_R=0V	T_R	-	80	-	nS
	R_L=50KΩ, V_R=10V	T_R	-	10	-	nS

Spectral Response



Mechanical Specifications

Units in inches [mm]



Care and handling instructions

Your optoelectronic components are packaged and shipped in opaque, padded containers to avoid ambient light exposure and damage due to shock from dropping or jarring.

Care must be taken to avoid exposure to high ambient light levels, particularly from tungsten sources or sunlight.

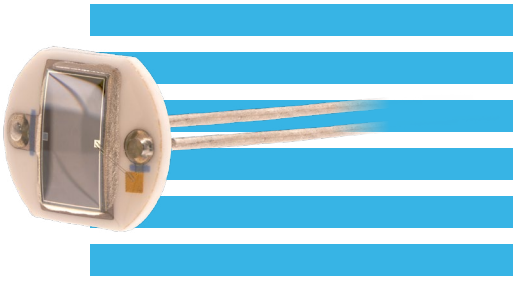
- These components can be rendered inoperable if dropped or sharply jarred. The wire bonds are delicate and can become separated from the bonding pads when the component is dropped or otherwise receives a sharp physical blow.
- Most windows on photodiodes are either silicon or quartz. They should be cleaned with isopropyl alcohol and a soft (optical grade) pad.
- Photodiode exposure to extreme high or low storage temperatures can affect the subsequent performance. Maintain a non-condensing environment for optimum performance and lifetime.
- All devices are considered ESD sensitive. The photodiodes are shipped in ESD protective packaging. When unpacking and using these products, anti-ESD precautions should be observed.
- Photodiode packages and/or operation may be impaired if exposed to CHLOROETHENE, THINNER, ACETONE, TRICHLOROETHYLENE or any harsh chemicals.
- Optoelectronic components in plastic packages should be given special care. Clear plastic packages are more sensitive to environmental stress than those of black plastic. Storing devices in high humidity can present problems when soldering. Since the rapid heating during soldering stresses the wire bonds and can cause wire to bonding pad separation, it is recommended that devices in plastic packages to be baked for 24 hours at 85°C.
- The leads on the photodiode SHOULD NOT BE FORMED. If your application requires lead spacing modification, please contact Advanced Photonix Applications group at Techsupport@advancedphotonix.com before forming a product's leads. Product warranties could be voided.
- Most devices are provided with wire or pin leads for installation in circuit boards or sockets. Observe the soldering temperatures and conditions specified below:
  - Soldering Iron: Soldering 30 W or less
  - Temperature at tip of iron 300°C or lower.
  - Dip Soldering: Bath Temperature: 260±5°C.
  - Immersion Time: within 5 Sec.
  - Soldering Time: within 3 Sec.
  - Vapor Phase Soldering, Reflow Soldering: DO NOT USE

Legal Disclaimer

Information in this data sheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

RoHS COMPLIANT

Most of our standard catalog products are RoHS Compliant. Please contact us for details.



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Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

Advanced Photonix:

PDV-P9008 076-14-21-011 100-41-21-231 APX-SC0010 NSL-32SR3 NSL-4960 PDV-P9200 SD019-141-411-G 0090-3111-185 019-111-411 NSL-5540 019-141-411-G 100-12-22-021 NSL-19M51 PDV-P8006 118-23-21-021 NORPS-12 0050-3111-111 PDV-P8101 SD200-12-22-041 PDV-P9203 NSL-32SR2 NSL-5150 NSL-5910 PDB-V615-2 PDV-P9002 PDB-C154SM PDB-C613-2 PDV-P5002 PDV-P9004