

PDB-C615-2

Very Large Solderable Die Silicon Photodiode

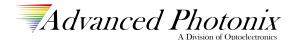
The PDB-C615-2 is a 258mm² RED enhanced solderable die silicon photodiode designed for applications requiring a very large active area photodiode with low capacitance and high-speed response time. The device is available with and without flying leads.

Applications

Optical Encoder
Position Sensor
Industrial Controls
Instrumentation
High Quantum Eff
Photoconductive
Red Enhanced
Large Active Area
Low Capacitance

Features

High Quantum Efficiency
Photoconductive
Red Enhanced
Large Active Area
Low Capacitance
High Speed
Available with and without leads





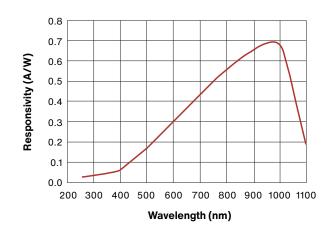
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	$V_{_{\mathrm{R}}}$	-	75	V
Operating Temperature	T _{OP}	-40	+100	°C
Storage Temperature	T _{STG}	-40	+125	°C
Soldering Temperature ²	-	-	+224	-

Typical Electro-Optical Specifications at T_A=23 °C

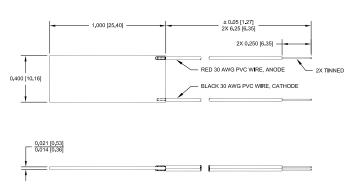
Parameter	Test Conditions	Symbol	Min	Тур	Max	Unit
Short Circuit Current	H=100fc, 2850K	I _{sc}	2	2.5	-	mA
Dark Current	V _R =5V	I _D	-	350	700	nA
Shunt Resistance	V _R =10mV	R _{sH}	0.1	0.25	-	ΜΩ
Junction Capacitance	V _R =5V; f=1MHz	CJ	-	775	1150	pF
Spectral Application Range	Spot Scan	-	350	-	1100	nm
Breakdown Voltage	I=10μA	$V_{\scriptscriptstyle BD}$	25	50	-	V
Noise Equivalent Power	V _R =0V@λ=Peak	NEP	-	3x10 ⁻¹²	-	W/ √ Hz
Response Time (10%-90%)	RL=1K Ω , V _R =5V, λ =660nm	T _R	-	150	-	nS

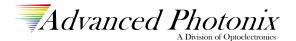
Spectral Response



Mechanical Specifications

Units are 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.
- **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.



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

- 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

