

SD040-101-411

UV-Enhanced Surface Mount Silicon Photodiode

The SD040-101-411 is a 0.8mm² active area UV-enhanced Silicon photodiode ideal for detecting light in the range odf 200-1100nm. The device is highly sensitive with a low noise assembled in a compact 1206 water clear surface-mount package. The device is available on Tape and Reel and is designed for automated SMT assembly.

Applications

Industrial Sensing Light Management Handheld Devices

Features

Small Footprint	
Low Capacitance	
High Speed	
UV Enhanced	







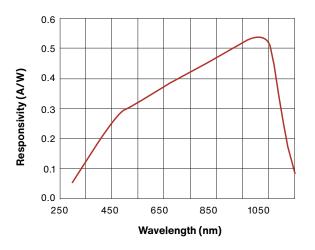
Absolute Maximum Ratings

Parameter	Symbol	Min	Мах	Unit
Reverse Voltage	V _R	-	50	V
Operating Temperature	T _{op}	-40	+100	°C
Storage Temperature	T _{stg}	-50	+125	°C
Package	Wire on Die			

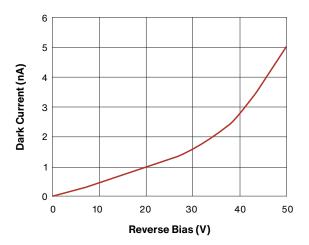
Typical Electro-Optical Specifications at T_A=23 °C

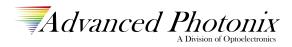
Parameter	Test Conditions	Symbol	Min	Тур	Max	Unit
Active Area	-	A.A.	-	0.79	-	mm²
Spectral Range	-	Δλ	200	-	1100	nm
Light Current (2856K)	V _R =5V, H=1000lux	I _L	-	9.0	-	μΑ
Capacitance	V _R =5V, F=1000kHz	C	-	20	-	pF
Dark Current	V _R =10V	I _D	-	-	0.5	nA
Shunt Resistance	V _R =10mV	R _{sh}	-	1.0	-	GΩ

Spectral Response



Dark Current vs Reverse Bias

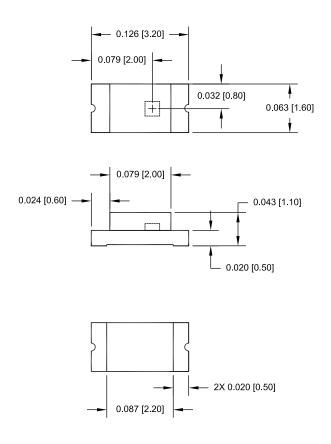






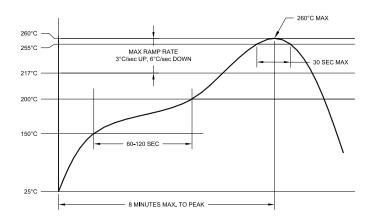
Mechanical Specifications

Units are in inches (mm)



Orientation mark indicates Cathode

Reflow Profile



Soldering

Recommendation			
Wave	Not Advised	-	
IR Oven Reflow	Allowed	See Reflow Profile	
Forced Convection Reflow	Recommended	See Reflow Profile	
Convection Reflow	Recommended	See Reflow Profile	
Vapor Phase Reflow	Recommended	See Reflow Profile	
Manual	Not Advised	260°C for 3 seconds max	
Moisture Sensitivity Level	2	J-STD-033	





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

