



APX-NG011SMD

110µm Diameter Surface Mount Device (SMD) InGaAs Photodiode

The APX-NG011SMD is a high sensitivity, low noise, 0.11mm diameter active area InGaAs photodiode for detection at SWIR, NIR range applications. The photodetector is assembled in a 1206 package.

Applications

Industrial Sensing
Security
Communication
Medical

Features

1206 SMD Package
Low Dark Current and Capacitance
High Sensitivity
Detection in SWIR

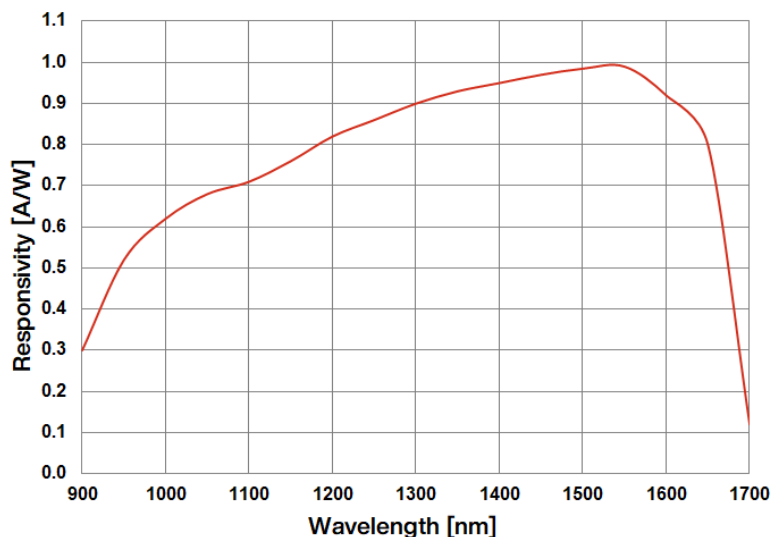
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	V_R	-	20	V
Operating Temperature	T_{OP}	-40	+100	°C
Storage Temperature	T_{STG}	-40	+125	°C
Package		1206		

Typical Electro-Optical Specifications at $T_A=23\text{ °C}$

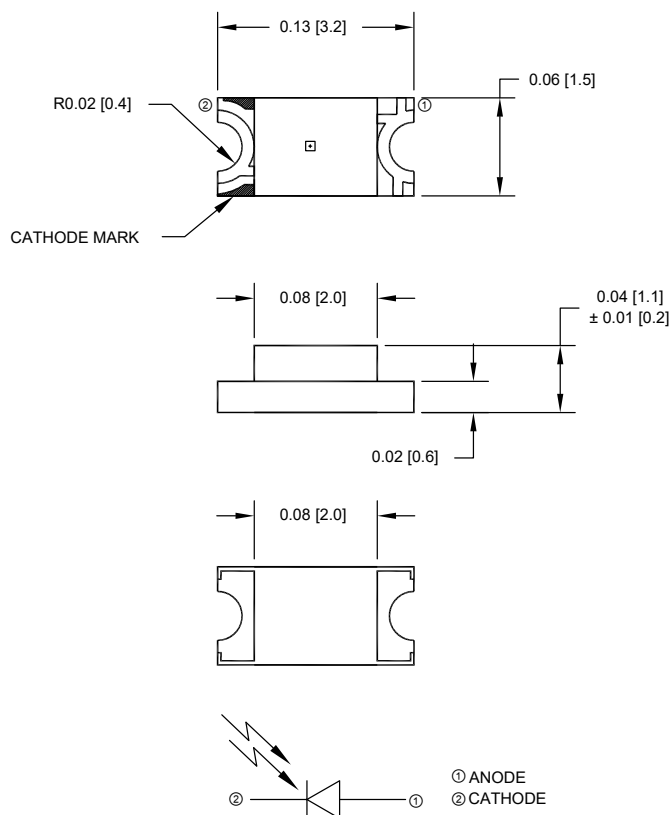
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Active Area	-	A.A.	-	0.0095	-	mm ²
Active Area Diameter	-	A.A _Ø	-	Ø110	-	µm
Breakdown Voltage	$I_R=1\mu\text{A}$	V_{BD}	-	-	20	V
Dark Current	$V_R=10\text{V}$	I_D	-	0.2	1	nA
Spectral Range	Spot Scan	λ	900	-	1700	nm
Capacitance	$V_R=5\text{V}, F=1\text{MHz}$	C_J	-	1.5	2	pF
Shunt Resistance	$V_R=10\text{mV}$	R_{SH}	40	-	-	MΩ
Angle of Half Sensitivity	-	θ	-	±65	-	deg
Responsivity	$V_R=5\text{V}, \lambda=1300\text{nm}$	R	0.90	0.95	-	A/W
	$V_R=5\text{V}, \lambda=1550\text{nm}$		0.95	1.00	-	

Typical Spectral Response at $T_A=23\text{ °C}$

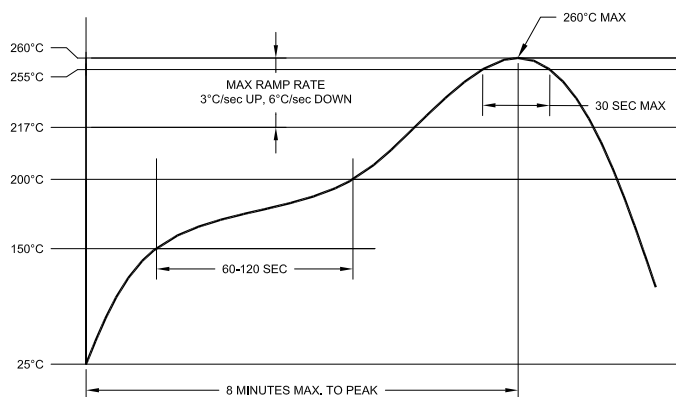


Mechanical Specifications

Units are in inches [mm]



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	Allowed	260°C for 3 seconds max
Moisture Sensitivity Level	3	J-STD-033

Care and Handling Instructions

Handle and store devices with care to minimize exposure to excessive ambient light levels, especially from intense sources like direct sunlight or tungsten lamps. Protecting the devices from excessive light exposure during installation, maintenance, or storage helps ensure optimal performance.

- These devices can be rendered inoperable if dropped or sharply jarred. The wire bonds are delicate and can become separated from the bonding pads when the device is dropped or otherwise receives a sharp physical blow.
 - Most windows on devices are either borosilicate or quartz. They should be cleaned with isopropyl alcohol and a soft (optical grade) pad.
 - Device 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 devices are shipped in ESD protective packaging. When unpacking and using these products, anti-ESD precautions should be observed.
 - Device packages and/or operation may be impaired if exposed to CHLOROETHENE, THINNER, ACETONE, TRICHLOROETHYLENE or any harsh chemicals.
- Optoelectronic devices 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 devices **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.



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

