

APX-SC0010

Silicon Carbide Photodiode

The APX-SC0010 is an 1mm² active area Silicon Carbide (SiC) photodiode assembled on a 2-pin TO-46 package. The photodiode has spectral range from 200nm to 380nm and it completely blocks any wavelength outside this range including the visible range. SiC photodetectors are extremely durable and can withstand prolonged UV exposure in many applications.

Applications

UV Index Monitoring

UV Dose Measurement

Flame Detection

Features

Broad Band (UVA+UVB+UVC)

Excellent Visible Blocking

High Responsivity

Low Dark Current

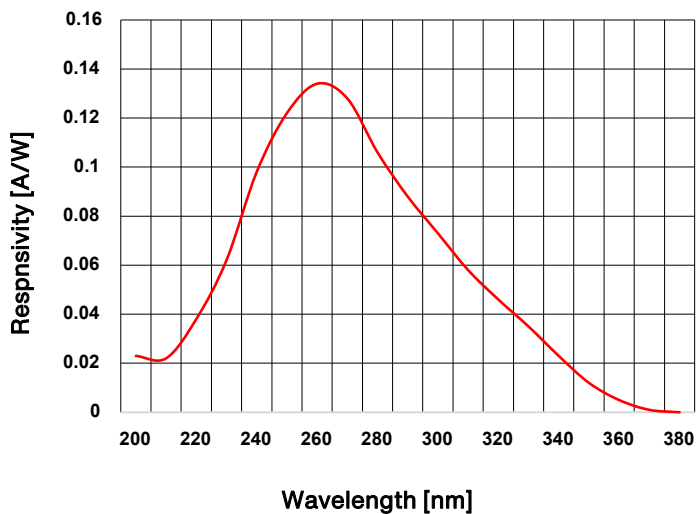
Absolute Maximum Ratings

Parameter	Symbol	Min	Max	Unit
Reverse Voltage	V_R	-	20	V
Operating Temperature	T_{OP}	-40	+125	°C
Storage Temperature	T_{STG}	-40	+125	°C
Package		TO-46		

Typical Electro-Optical Specifications at $T_A=25\text{ }^\circ\text{C}$

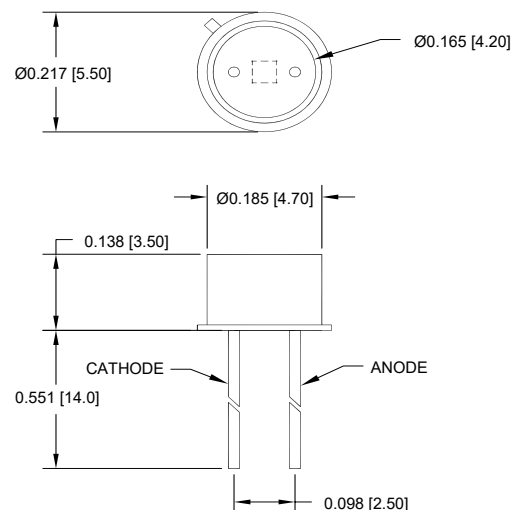
Parameter	Test Conditions	Symbol	Min	Typ	Max	Unit
Active Area Dimension	-	A.A. _D	-	1.0 x 1.0	-	mm
Active Area	-	A.A.	-	1.0	-	mm ²
Spectral Range	-	λ	200	-	380	nm
Peak Responsivity	$\lambda=\text{Peak}, V_R=0\text{V}$	λ_p	-	275	-	nm
Responsivity	$\lambda=254\text{nm}$	R	-	0.13	-	A/W
Capacitance	$V_R=0\text{V}; f=1\text{MHz}$	C_J	-	97	-	pF
Dark Current	$V_R=1\text{V}$	I_D	-	0.3	1	nA

Spectral Response



Mechanical Specifications

Units are in inches [mm]



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 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 borosilicate 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.



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

