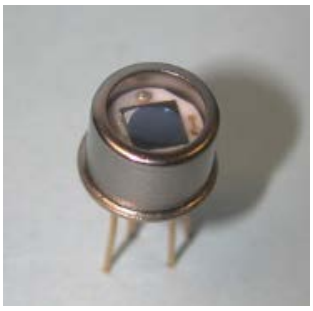
LUNA OPTOELECTRONICS

LASER COMPONENTS®

SD138-11-31-211 Two Color Silicon Photodiode

RoHS COMPLIANT



FEATURES

- Large Active Area
- Low Noise
- High Shunt Resistance
- Hermetically sealed
- High Saturation

DESCRIPTION

The **SD138-11-31-211** device features two silicon PIN photodiodes vertically integrated in a hermetic TO-5 package. The top photodiode absorbs a portion of the light and the remaining light is transmitted to the bottom photodiode. The current ratio of the two photodiodes is used to remotely determine and monitor the color temperature of an object.

APPLICATIONS

- Dual Wavelength Power Meters
- Remote Color Temperature Sensing

> Absolute Maximum Ratings

Part No.	Wavelength Range Top [nm]	Wavelength Range Bottom [nm]	Reverse Voltage [V]	Operating Temperature [C]	Storage Temperature [C]	Package
SD138-11-31-211	300 to 1100	950 to 1100	25	-40 to +120	-55 to +125	TO-5

> Electrical and Optical Characteristics

Typical Characteristics per elements (T=23°C unless specified)						
Parameter	**Test Conditions**	**Symbol**	**Min**	**Typical**	**Max**	**Unit**
Active Area Diameter (Top)		A.A.	-	3.5	-	mm
Active Area Diameter (Bottom)		A.A.	-	3.5	-	mm
Responsivity (Top)	λ= 900 nm	R	0.50	0.60	-	A/W
Responsivity (Bottom)	λ= 1050 nm	R	0.19	0.22	-	A/W
Peak NEP (Top)	λ= 900 nm	NEP	-	$5x10^{-15}$	$2x10^{-14}$	$W/Hz^{0.5}$
Peak NEP (Bottom)	λ= 1050 nm	NEP	-	$9x10^{-15}$	$3.3x10^{-14}$	$W/Hz^{0.5}$
Shunt Resistance (Top and Bottom)	V_{bias} = 10 mV	R_{SH}	80	1000	-	MΩ
Capacitance (Top and Bottom)	V_{bias} = 0V; f = 1 MHz	C_J	-	370	-	pF

SD138-11-31-211 Rev. D

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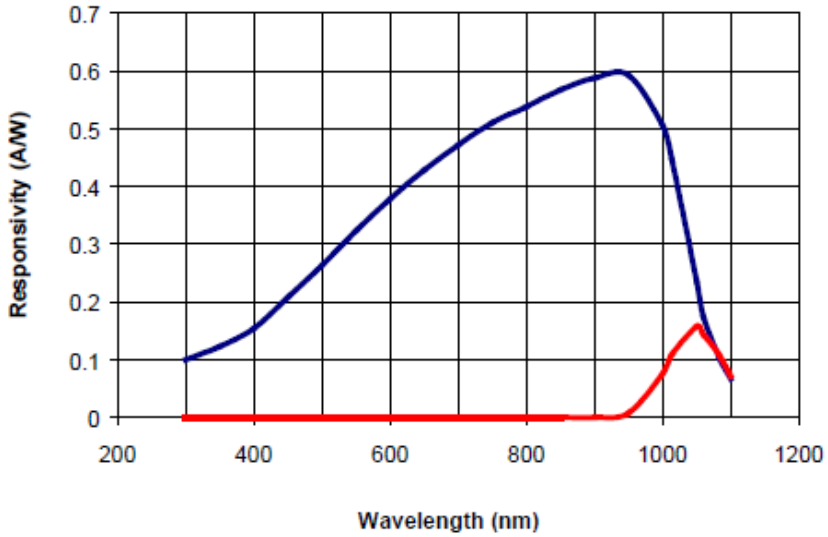
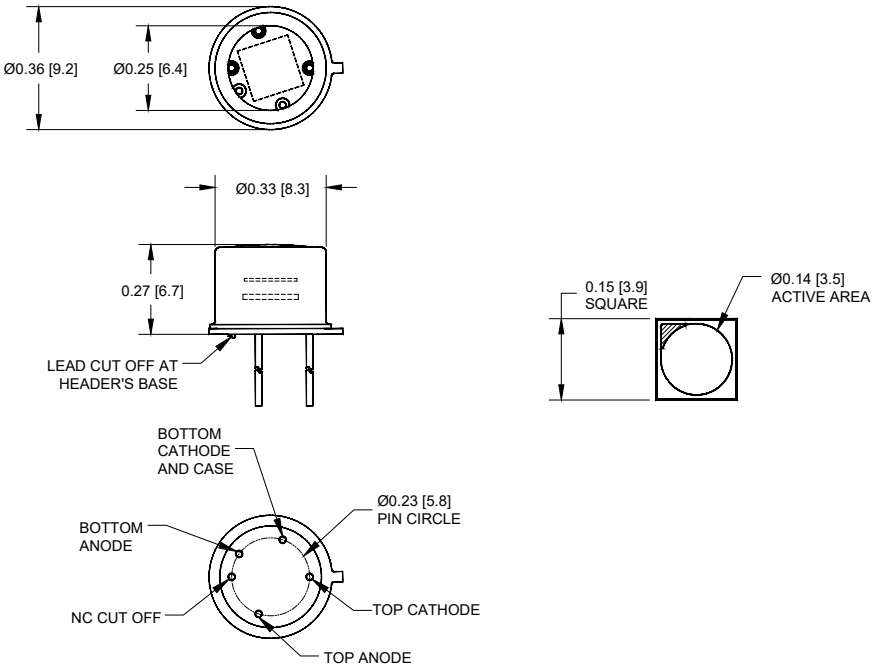
> Spectral Response



Top Photodiode= Blue
Bottom Photodiode = Red

> Package Dimensions
are in inches [mm]



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MATERIALS SAFETY

This product is free of conflict minerals and meets REACH compliance. Please see website for reports.

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