



DESCRIPTION

The **SD138-11-31-211** device features two silicon PIN photodiodes vertically integrated 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. The **SD138-11-31-211** can find application in dual wavelength power meters and remote color temperature sensing.

FEATURES

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

RELIABILITY

Contact Luna for recommendations on specific test conditions and procedures.

APPLICATIONS

- Dual Wavelength Power Meters
- Remote Color Temperature Sensing

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN		MAX	UNITS	
Reverse Voltage	-	-	25	V	$T_a = 23^{\circ}\text{C}$ UNLESS OTHERWISE NOTED.
Storage Temperature	-55	to	+150	$^{\circ}\text{C}$	-
Operating Temperature	-40	to	+125	$^{\circ}\text{C}$	-
Soldering Temperature*	-	-	+240	$^{\circ}\text{C}$	-

*1/16 inch from case for 3 seconds max.

OPTO-ELECTRICAL PARAMETERS

T_a = 23°C UNLESS NOTED OTHERWISE

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Active Area Diameter (Top)	-	-	3.5	-	mm
Active Area Diameter (Bottom)	-	-	3.1	-	mm
Spectral Range of (Top)	-	-	300 to 1100	-	nm
Spectral Range of (Bottom)	-	-	900 to 1100	-	nm
Shunt Resistance	Bias: 10mV	50	200	-	MΩ
Responsivity	Wavelength = 950 nm	0.50	0.60	-	A/W
Peak NEP (Bottom)	Wavelength = 1050	0.135	0.155	-	A/W
Peak NEP (Top)	Wavelength = 950	-	12	25	fw/√Hz
Peak NEP (Bottom)	Wavelength = 1050	-	45	100	fw/√Hz
Capacitance	-	-	290	305	pF
Operating Temperature	-	-55	-	+100	°C
Storage Temperature	-	-55	-	+100	°C

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

