

**DESCRIPTION**

The SD003-151-001 is a high sensitivity, low noise, 0.075 mm diameter active area InGaAs photodiode (chip dimensions 0.3mm x 0.3mm) for detection at SWIR, NIR wavelengths for imaging and sensing applications. The photodetector is assembled in a 1206 package.

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**FEATURES**

- Low Noise
- Low Dark Current
- Low Capacitance
- High Sensitivity
- Detection in LWIR

**APPLICATIONS**

- Industrial Sensing
- Security
- Communication
- Medical

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN	MAX	UNITS	
Reverse Voltage	-	50	V	$T_a = 23^{\circ}\text{C}$ UNLESS NOTES OTHERWISE
Operating Temperature	0	+85	$^{\circ}\text{C}$	-
Storage Temperature	-25	+85	$^{\circ}\text{C}$	-
Soldering Temperature	-	+240	$^{\circ}\text{C}$	-
Wavelength Range	400	1100	nm	-

Information in this technical datasheet is believed to be correct and reliable. However, no responsibility is assumed for possible inaccuracies or omission. Specifications are subject to change without notice.

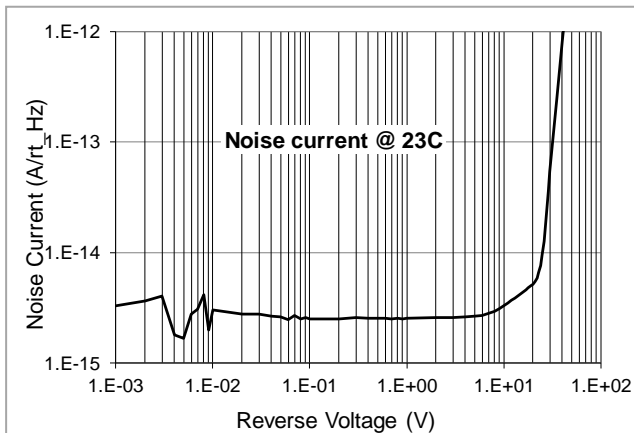
**OPTO-ELECTRICAL PARAMETERS**

T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

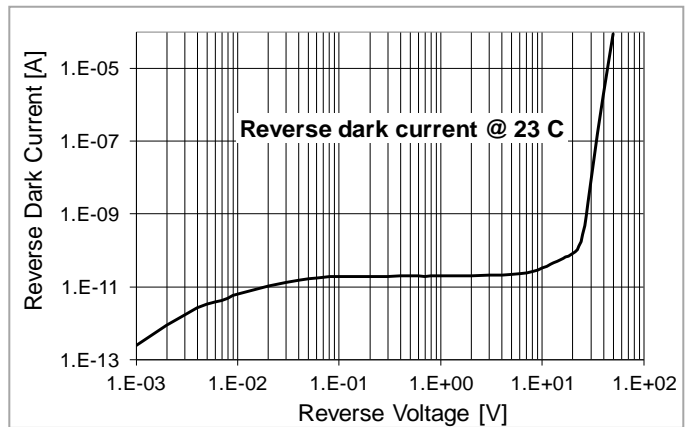
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	I <sub>bias</sub> = 1 μA	-	50	-	V
Responsivity	λ = 1310 nm, V <sub>r</sub> = 5V	0.80	0.90	-	A/W
Shunt Resistance	V <sub>bias</sub> = 10 mV	-	2.0	-	GΩ
Dark Current	V <sub>bias</sub> = 1V	-	0.001	-	nA
Capacitance	V <sub>bias</sub> = 5V; f = 1.0 MHz	-	10	-	pF
Rise Time (50Ω load)	V <sub>bias</sub> = 5V; λ = 1310 nm	-	1.2	-	ns
Spectral Range		800	-	1700	nm
Noise Equivalent Power	V <sub>r</sub> = 5V @ λ = 1310	-	4.0x10 <sup>-15</sup>	-	W/Hz <sup>1/2</sup>

**TYPICAL PERFORMANCE**

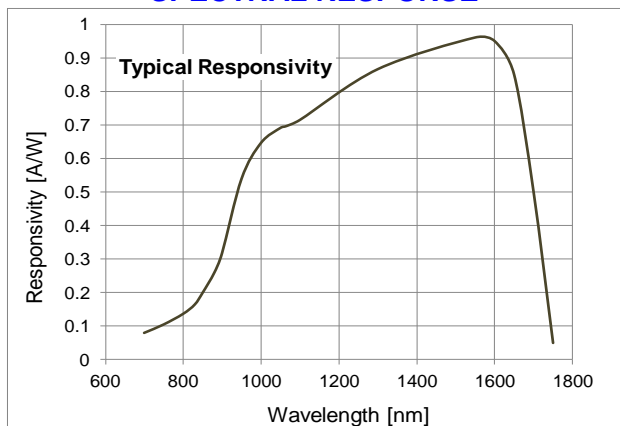
**NOISE CURRENT vs. REVERSE BIAS**



**DARK CURRENT vs REVERSE BIAS**



**SPECTRAL RESPONSE**



**DARK CURRENT vs REVERSE BIAS**

