

**DESCRIPTION**

The SD002-151-001 is a high sensitivity, low noise, 0.05 mm diameter active area InGaAs photodiode sensitive to wavelengths over a standard InGaAs (800-1700nm) spectral range and used for imaging and sensing applications. The photodetector is assembled in a 1206 package.

**FEATURES**

- Low Noise
- Low Dark Current and Capacitance
- High Sensitivity
- Detection in NIR and SWIR

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**APPLICATIONS**

- Industrial Sensing
- Security
- Communication
- Medical

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN		MAX	UNITS	
Reverse Voltage	-	-	40	V	T <sub>a</sub> = 23°C UNLESS NOTED OTHERWISE
Operating Temperature	-40	to	+125	°C	-
Storage Temperature	-55	to	+100	°C	-
Soldering Temperature	-	-	+260	°C	-
Wavelength Range	800	to	1700	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.

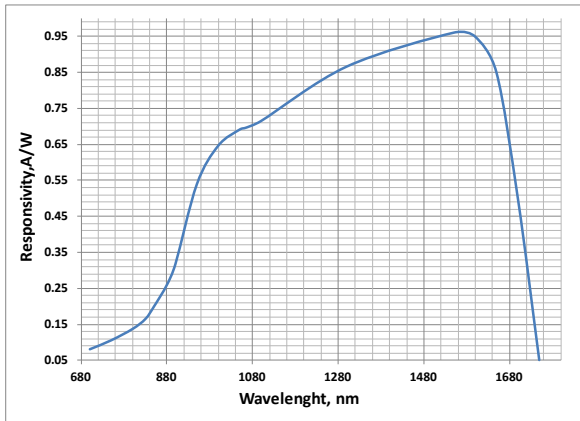
**OPTO-ELECTRICAL PARAMETERS**

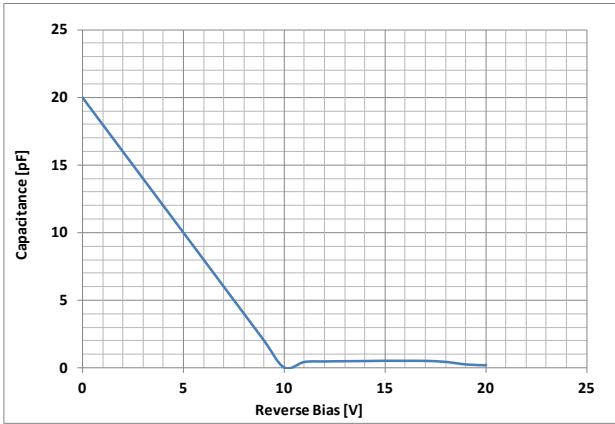
T<sub>a</sub> = 23°C UNLESS NOTED OTHERWISE

PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	I <sub>bias</sub> = 1 μA	-	50	-	V
Responsivity	λ = 1300 nm, V <sub>R</sub> = 5V	0.80	1.0	-	A/W
Shunt Resistance	V <sub>bias</sub> = 10 mV	0.2	1.0	-	GΩ
Dark Current	V <sub>bias</sub> = 5V	-	0.75	1.0	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**

**SPECTRAL RESPONSE**

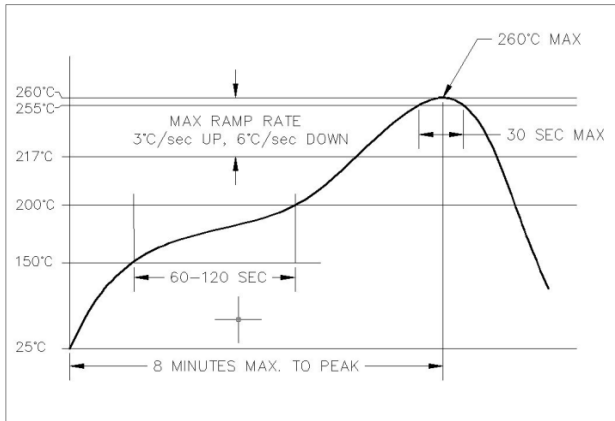




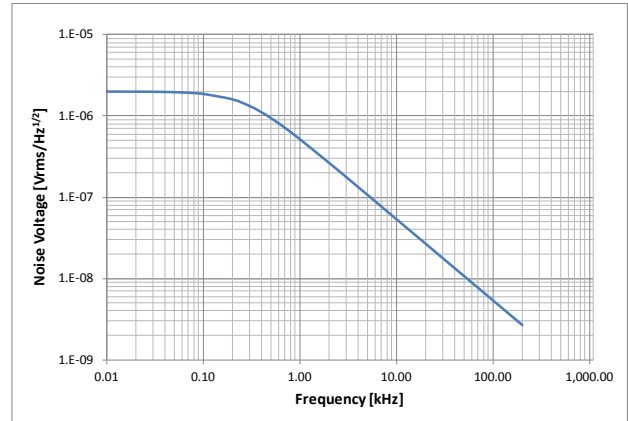
**REFLOW PROFILE**

<figure height 2.2">

**APPLICATION CIRCUIT**



**REFLOW PROFILE**



**APPLICATION CIRCUIT**

