

DESCRIPTION

The SD 039-151-001 is a high sensitivity, low noise, 1 mm² diameter active area InGaAs photodiode (chip dimensions 1.36mmx1.36mm) for detection at SWIR, NIR wavelengths for imaging and sensing applications. Photodetector assembled in a 1210 package.

RELIABILITY

This API high-reliability detector is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test. Contact API for recommendations on specific test conditions and procedures.

FEATURES

- Low Noise,
- High Sensitivity
- Detection at SWIR and NIR

APPLICATIONS

- Industrial Sensing
- Security and Defense
- Communication
- Medical

ABSOLUTE MAXIMUM RATINGS

SYMBOL	MIN	MAX	UNITS
Reverse Voltage	-	40	V
Operating Temperature	-40	+100	°C
Storage Temperature	-55	+125	°C
Soldering Temperature	-	+260	°C

T_a = 23°C non condensing 1/16 inch from case for 3 seconds max

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.

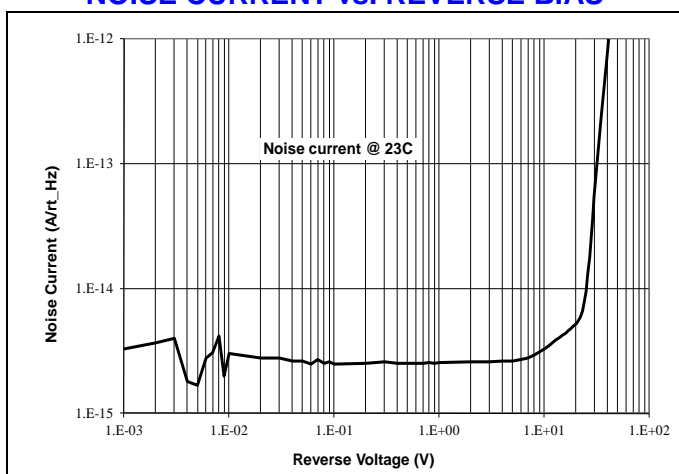
ELECTRO-OPTICAL CHARACTERISTICS RATINGS

T_a = 23°C unless noted otherwise

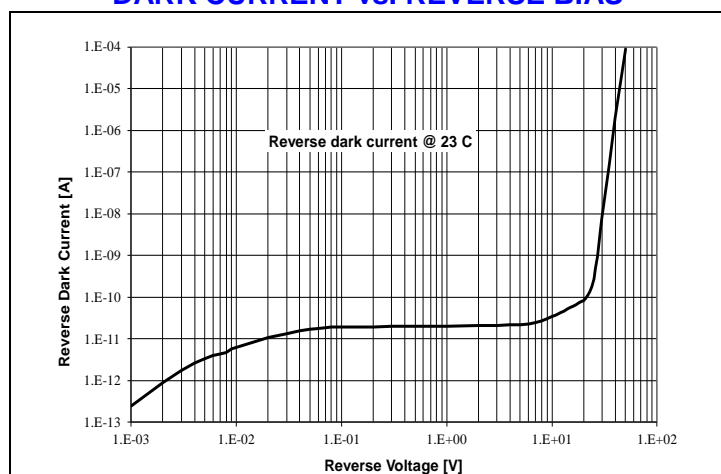
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	I _{bias} = 1 μA	20	-	40	V
Spectral Range		800	-	1700	nm
Responsivity	λ = 1310 nm, V _r = 5V	0.8	0.9	-	A/W
Shunt Resistance	V _{bias} = 10 mV	40	200	-	MΩ
Dark Current	V _{bias} = 5V	-	0.2	10	nA
Capacitance	V _{bias} = 5V; f = 1.0 MHz	-	70	8	pF
Rise Time (50Ω load)	V _{bias} = 5V; λ = 1310 nm	-	2.0	-	ns
Noise Equivalent Power	V _r = 5V @ λ = 1310	-	1.0x10 ⁻¹⁴	-	fW/√Hz

TYPICAL PERFORMANCE

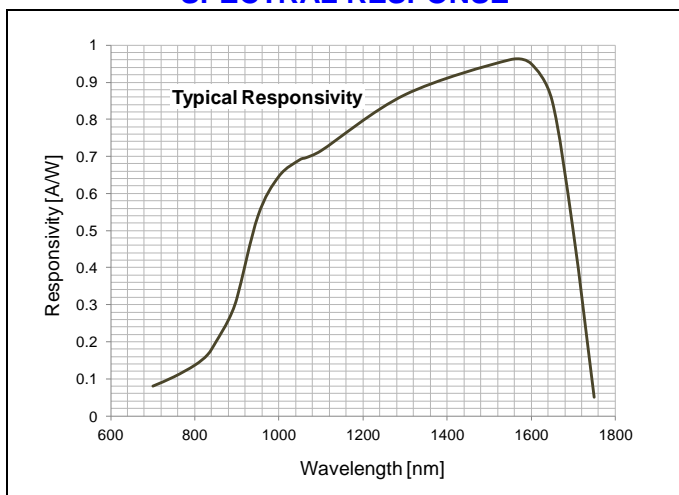
NOISE CURRENT vs. REVERSE BIAS



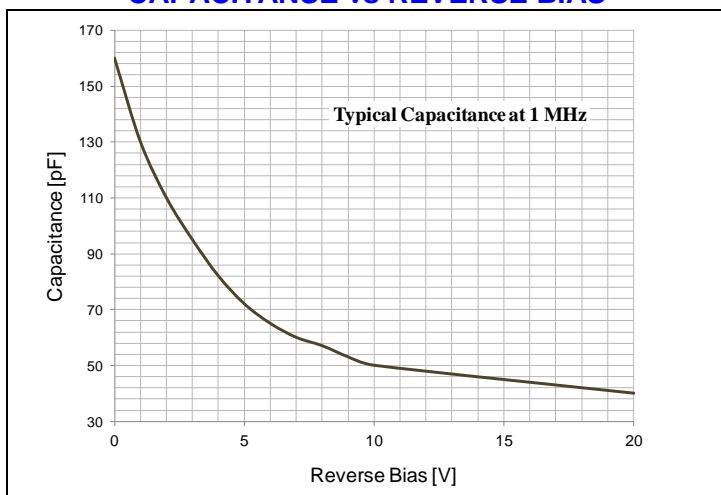
DARK CURRENT vs. REVERSE BIAS



SPECTRAL RESPONSE



CAPACITANCE vs REVERSE BIAS



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.