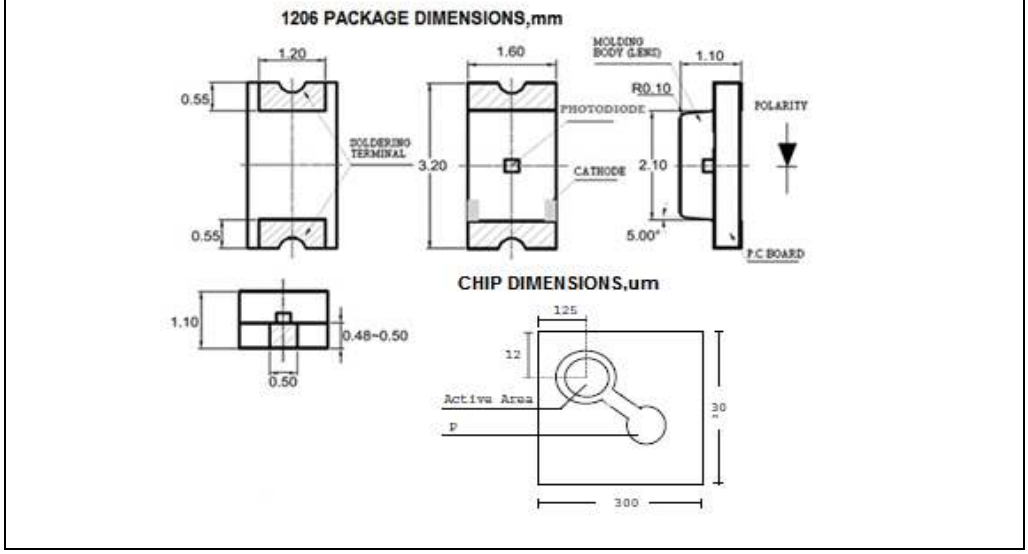
Surface-Mount InGaAs Photodetector

SD003-151-001

WWW.ADVANCEDPHOTONIX.COM **Precision – Control – Results**



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.

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FEATURES

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

RELIABILITY

Contact API for recommendations on specific test conditions and procedures.

APLICATIONS

- Industrial Sensing
- Security
- Communication
- Medical

ABSOLUTE MAXIMUM RATINGS

T_a = 23°C unless noted otherwise

SYMBOL	MIN	MAX	UNITS
Reverse Voltage	-	40	V
Operating Temperature	-40	+125	°C
Storage Temperature	-55	+100	°C
Soldering Temperature	-	+260	°C
Wavelength Range	450	1700	nm

REV 12-10-14

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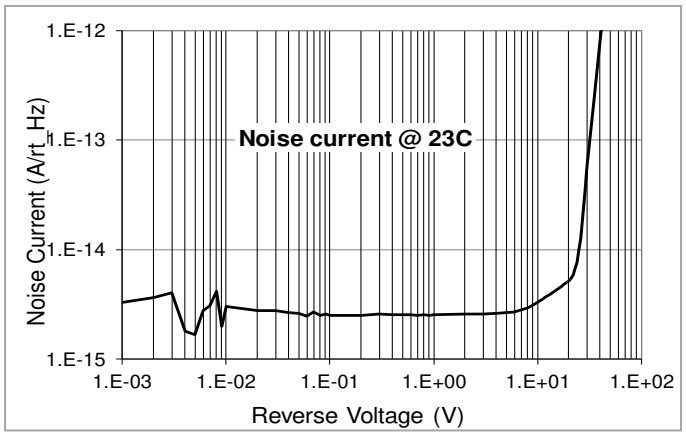
ABSOLUTE MAXIMUM RATINGS

T_a = 23°C unless noted otherwise

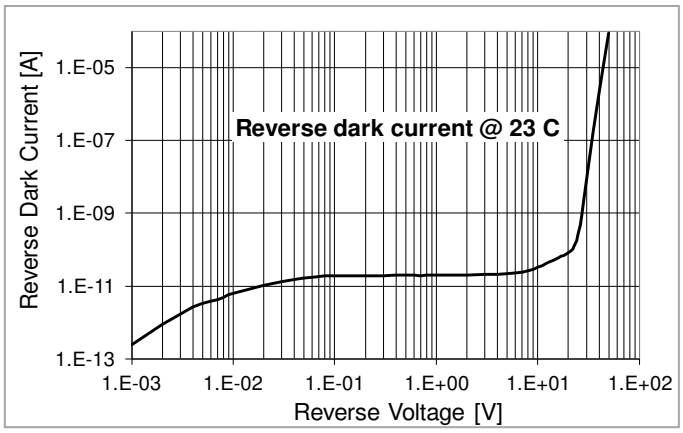
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Breakdown Voltage	I_{bias} = 1 μA	-	50	-	V
Responsivity	λ= 1310 nm, Vr=5V	0.80	0.90	-	A/W
Shunt Resistance	V_{bias} = 10 mV	-	2.0	-	GΩ
Dark Current	V_{bias} = 1V	-	0.001	-	nA
Capacitance	V_{bias} = 5V; f = 1.0 MHz	-	10	-	pF
Rise Time (50Ω load)	V_{bias} = 5V;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

TYPICAL PERFORMANCE

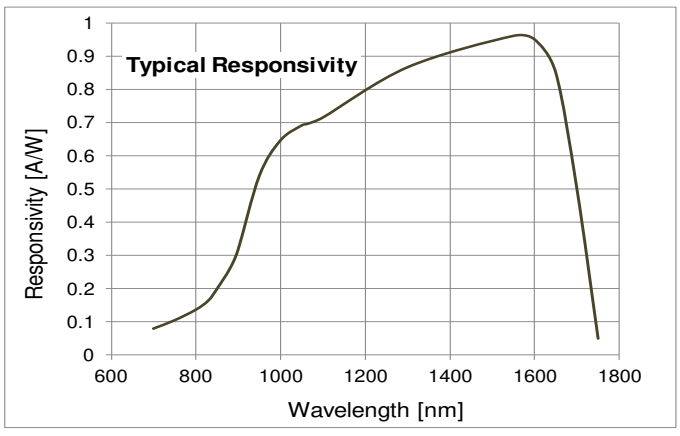
NOISE CURRENT vs. REVERSE BIAS



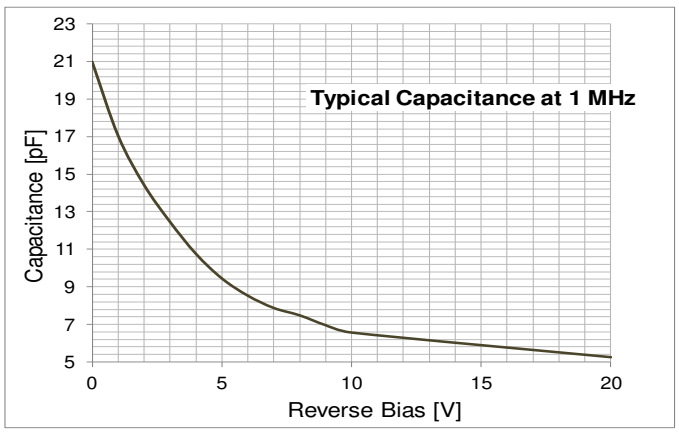
DARK CURRENT vs. REVERSE BIAS



SPECTRAL RESPONSE



CAPACITANCE vs REVERSE BIAS



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