

**DESCRIPTION**

The **SD019-141-411 IR920** is an IR enhanced silicon photodiode with an integrated bandpass filter, assembled in a 0805 SMT package.

**FEATURES**

- Improved Sensitivity in NIR Area
- Small Footprint
- Low Capacitance
- High Speed

**RELIABILITY**

Contact Luna for recommendations on specific test conditions and procedures.

**APPLICATIONS**

- Industrial Sensors
- Light Management
- Handheld Devices

**ABSOLUTE MAXIMUM RATINGS**

SYMBOL	MIN		MAX	UNITS	
Reverse Voltage	-	-	50	V	T <sub>a</sub> = 23°C NON CONDENSING
Storage Temperature	-50	-	125	°C	SEE RECOMMENDED REFLOW PROFILE
Operating Temperature	-40	to	+105	°C	-
Soldering Temperature*	-	-	+260	°C	-

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

**OPTO-ELECTRICAL PARAMETERS**

$T_a = 23^\circ\text{C}$  UNLESS NOTED OTHERWISE

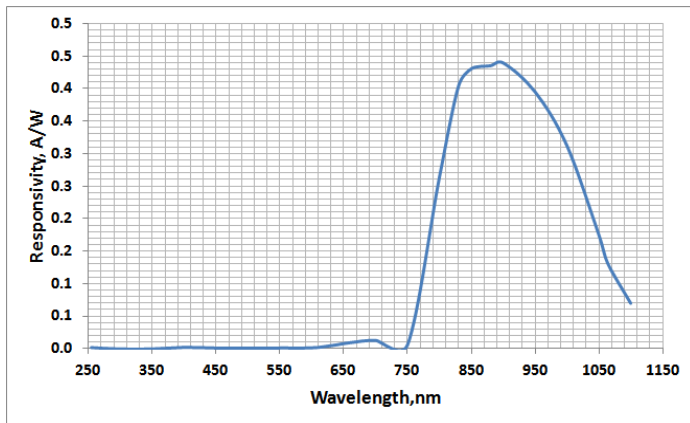
PARAMETER	TEST CONDITIONS	MIN	TYP	MAX	UNITS
Forward Voltage	$I_f = 10 \text{ mA}$	0.5	0.8	1.3	V
Breakdown Voltage	$I_R = 100 \mu\text{A}$	50	-	-	V
Shunt Resistance	$V_{\text{bias}} = 10 \text{ mV}$	-	2	-	$\text{G}\Omega$
Dark Current	$V_R = 10 \text{ V}$	-	20	500	pA
Junction Capacitance	$V_R = 5\text{V}; f = 1000 \text{ kHz}$	-	6.0	-	pF
Rise Time @ 920 nm	$V_R = 3\text{V}; R_i = 1000\Omega$	-	-	1.0	$\mu\text{s}$
Responsivity (-IR)	$V_R = 0\text{V}; \lambda = 920 \text{ nm}$	-	0.5	-	A/W

**SOLDERING**

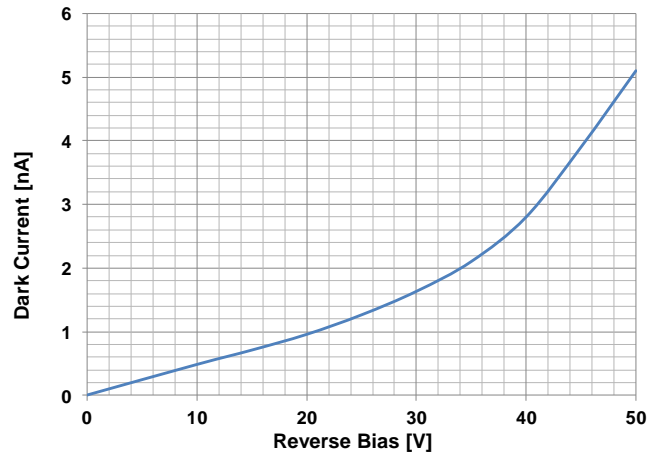
	RECOMMENDATION	
Wave	Not Advised	
IR Oven Reflow	Allowed	See reflow profile.
Forced Convection Reflow	Recommended	See reflow profile.
Convection Reflow	Recommended	See reflow profile.
Vapor Phase Reflow	Recommended	See reflow profile.
Manual	Not Advised	260°C for 3 seconds max.
Moisture Sensitivity Level	2	J-STD-033

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**



**DARK CURRENT**



**REFLOW PROFILE**

