



**Model No. PDA-A13A4-2G**  
**2.5GHz 1310nm/1550nm Analog InGaAs PIN Photodiode in TO-46 Package**

**FEATURES**

- InGaAs PIN PD 4 pin TO for Analog application
- Industry standard TO-46 package with 1550nm AR coating cap lens and tab-less
- High responsivity at long wavelength
- Low inter-modulation distortion
- Suitable for CATV application



**ELECTRO-OPTICAL CHARACTERISTICS** (Typical values are at 25°C)

PARAMETERS	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
RESPONSIVITY	R	0.8	0.9		A/W	$\lambda = 1310\text{nm}$ , $V_R = 5\text{V}$
		0.9	1		A/W	$\lambda = 1550\text{nm}$ , $V_R = 5\text{V}$
DARK CURRENT	$I_D$		0.1	1	nA	$V_R = 5\text{V}$ , $T_A = 25^\circ\text{C}$
BREAKDOWN VOLTAGE	$V_{BD}$	25	50		V	$I_R = 10\mu\text{A}$
SECOND ORDER INTER-MODULATION DISTORTION	IMD2		-75	-70	dBc	$\lambda = 1550\text{nm}$ <sup>(1)</sup>
THIRD ORDER INTER-MODULATION DISTORTION	IMD3		-85	-80	dBc	$\lambda = 1550\text{nm}$ <sup>(2)</sup>
CAPACITANCE	C		0.56	0.7	pF	$V_R = 5\text{V}$ , $f = 1\text{MHz}$
BANDWIDTH	BW	2.5	3.2			$V_R = 5\text{V}$

(1) IMD2 measured at  $V_R = 12\text{V}$ ,  $P_{avg} = 0\text{dBm}$ ,  $OMI = 0.7$ ,  $R_{load} = 50\Omega$ ,  $f_1+f_2 = 850\text{MHz}$ ,  $f_1-f_2 = 50\text{MHz}$ . All are measured at 25°C.

(2) IMD3 measured at  $V_R = 12\text{V}$ ,  $P_{avg} = 0\text{dBm}$ ,  $OMI = 0.7$ ,  $R_{load} = 50\Omega$ ,  $f_1+f_2 = 500\text{MHz}$ ,  $f_1-f_2 = 350\text{MHz}$ . All are measured at 25°C.

**ABSOLUTE MAXIMUM RATINGS**

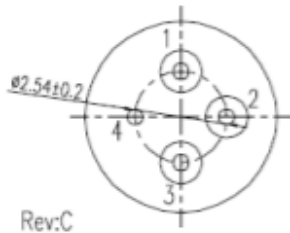
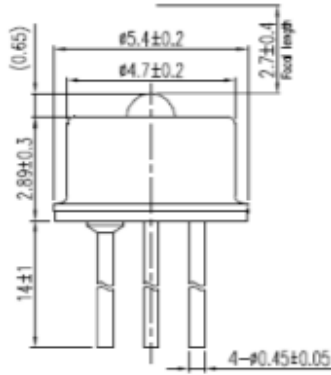
PARAMETERS	MIN.	MAX.	UNIT	CONDITIONS
STORAGE TEMPERATURE	-40	125	°C	
OPERATING TEMPERATURE	-40	85	°C	
LEAD SOLDER TEMPERATURE		260	°C	10 seconds
FORWARD CURRENT		10	mA	
REVERSE VOLTAGE		20	V	

**Note: The above specifications are subject to change without notice.**





**OUTLINE DIMENSIONS (unit: mm)**



- Pinout:**
- 1. Cathode
  - 2. Anode
  - 3. Case
  - 4. Case

**TYPICAL CHARACTERISTICS**

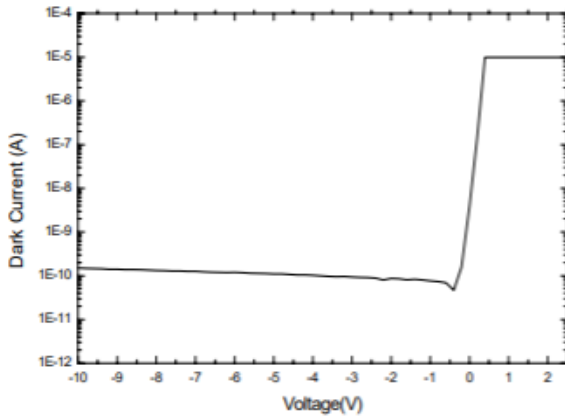


Fig. 1 Typical Dark Current and Forward Current.

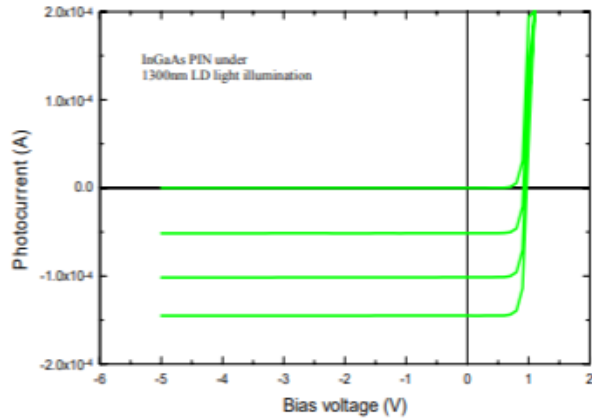


Fig. 2 Typical Photo-Current

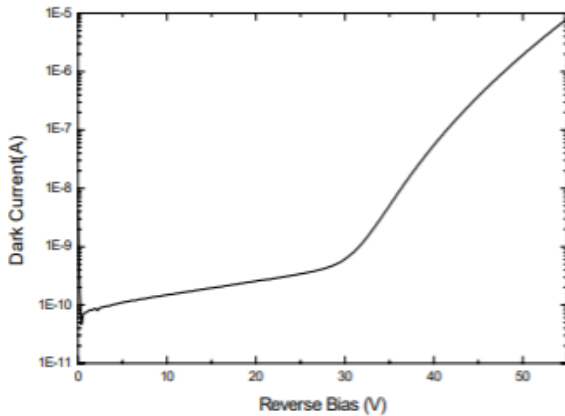


Fig. 3 Typical Breakdown Curve.

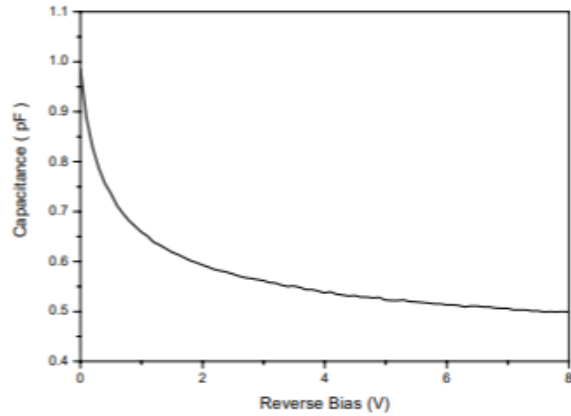


Fig. 4 Typical C-V Curve

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