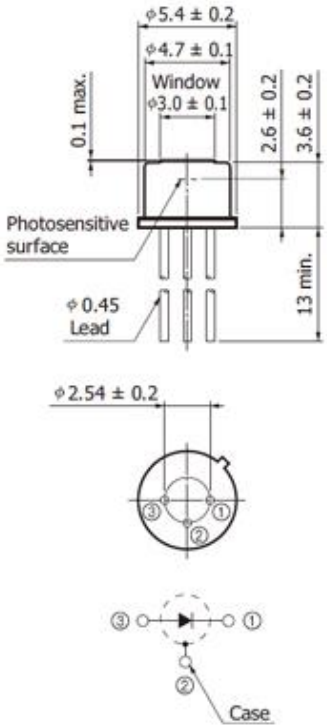
InGaAs PIN Photodiode

IGA1000



NOTES:

All dimension are in millimeters.

Description

OTRON SENSOR IGA1000 is a type of active area size of 1mm diameter active area IR sensitive detectors which exhibit excellent responsivity from 1000nm to 1680nm, allowing high sensitivity to weak signals.

These large active area devices are ideal for use in infrared instrumentation and monitoring applications.

We can also custom type according to customer chip size or Package style enquiry.

Features

* Low voltage operation
* Isolated type are also available
* Large Active Area Diameter
* Spectral Range 800nm to 1700nm

General Ratings

* Type InGaAs Photodiode
* High linearity
* Low cost
* Low dark current

Applications

* Optical Instrumentation
* NIR Sensing
* *Laser Power Measurement
* Power meters

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Absolute Maximum Ratings (Ta=25℃)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Chip size	s	1290×1290×175				um
Active area	A	ϕ1000				um
Forward current	I_F	10				mA
Reverse current	I_R	10				mA
Dark current	I_D	V_R=0V		10		pA
		V_R=5V		32		
Rise time	t_R	V_R=5V;R_L=50Ω，f=1MHz		3	5	ns
Forward Voltage	V_F	I_F=1mA			0.6	V
Reverse breakdown voltage	$V_{(BR)R}$	I_R=10μA Ev=0lx	40			V
Junction Capacitance	C_J	V_R=0V f=1MHz		14		uF
		V_R=5V f=1MHz		2.67		uF
Photo sensitivity	S_R	1310nm	0.95	0.97		A/W
		1550nm	0.98	1.10		
Spectral Application Range	λ_{range}		1000		1680	nm
Spectral Response-Peak	λ_p			1600		nm
Shunt resistance	R_{sh}	V_R=10mV		75		MΩ
Saturation power	L	V_R=0V;λ=1.55μm	1	1.6		mW
		V_R=2V;λ=1.55μm	2	5.3		
		V_R=5V;λ=1.55μm	6	12.1		
Angular Resp 50% Resp Pt	$\theta_{1/2}$			±55		Degrees
Noise Equivalent Power	NEP	V_R =5V λ=1550nm		8.16×10^{-13}		$W/Hz^{1/2}$
Specific Detectivity	D*	V_R =5V λ=1550nm		2.17×10^{12}		$cm(Hz/W)^{1/2}$

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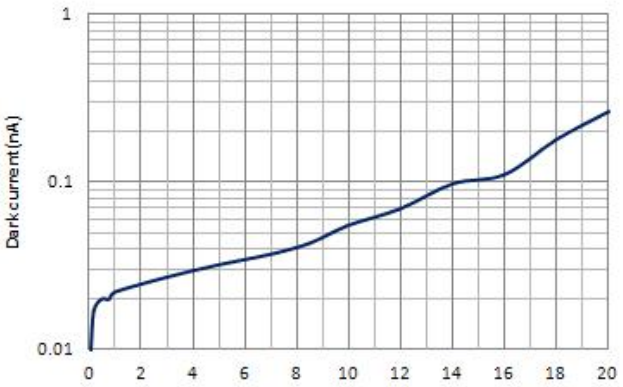
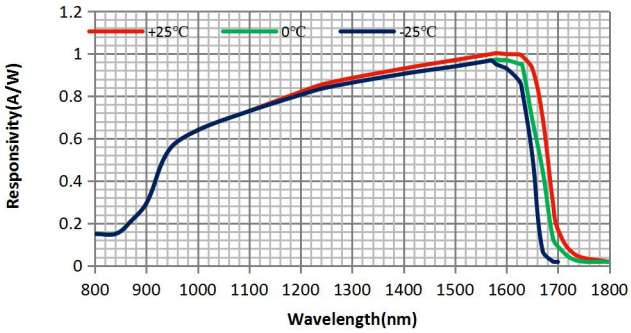
■Dark current vs. reverse voltage



■ Spectral response



■Relative Junction Capacitance VS. Voltage