

ICS PIN25G2-20GSG

25Gbps 1260/1620nm Top Illuminated MESA InGaAs PIN Diode

PRODUCT DESCRIPTION:

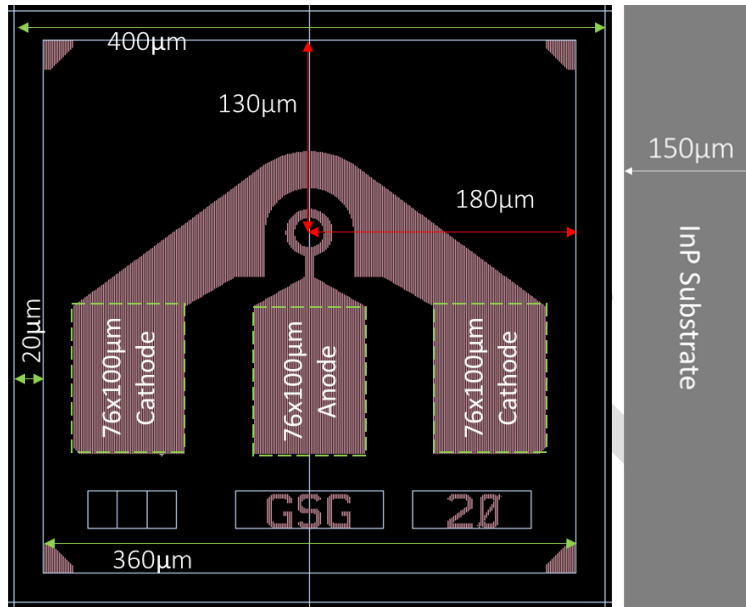
The PIN25G2-20GSG is a top illuminated 20 μ m optical window diameter MESA InGaAs PIN diode chip with a GSG configuration with 100 μ m pitch. The device is optimised for single mode communication fiber from 1260nm to 1620nm wavelength bands. This device features low capacitance and low dark currents and a large bandwidth at low reverse bias for 25Gbps data rates.

The chip pad metallisation layout is optimized for easy wire-bonding to most common TIAs.

Electrical and Optical Characteristics (temperature = 25°C):

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Dark Current	I_D	$V_{bias} = -2.5V$	-	1.5	3.0	nA
Responsivity	R	$\lambda = 1.31\mu m$	0.62	0.65	0.7	A/W
		$\lambda = 1.55\mu m$	0.52	0.55	0.6	A/W
Forward Voltage	V_{FWD}	$I = 1.0mA$	-	0.6	0.8	V
Reverse Breakdown	V_{BR}	$I_D = 1.0\mu A$	-	-26	-30	V
Capacitance	C	$V_{bias} = -2.5V$	105	115	130	fF
3dB-Cut-Off Frequency	F_C	$V_{bias} = -2.5V$	-	18	-	GHz
ESD rating	V_{ESD}	HBM	500	-	-	V
Operating Temperature	T_{OP}	$T_{room} = 25^\circ C$	-40	-	+85	$^\circ C$

Chip layout:



20μm window device with Ground-Signal-Ground (GSG) layout

Device dimensions:

Parameter	Min.	Typ.	Max.	Unit
Optical window diameter	19	20	21	μm
Die Size	380x380	400x400	-	μm ²
Pad Size (Anode)	74x98	76x100	78x102	μm ²
Pad Size (Cathode)	74x98	76x100	78x102	μm ²
Die width	380	400	-	μm
Die length	380	400	-	μm
Die thickness	140	150	160	μm

*Custom layout dimensions and die thickness are also available.