

## ICS PIN25G0-20GSG

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

#### PRODUCT DESCRIPTION:

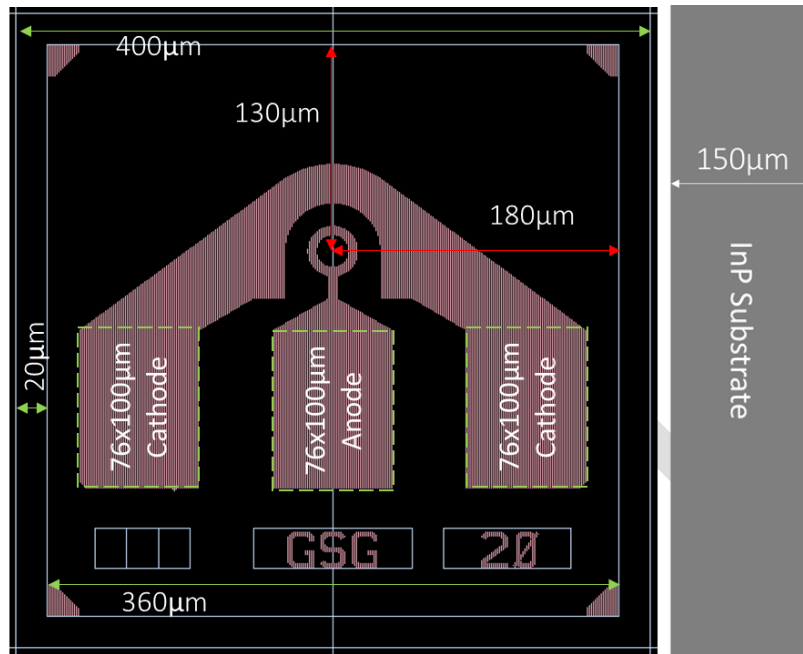
The PIN25G0-20GSG is a top illuminated 20 $\mu$ m optical window diameter MESA InGaAs PIN diode chip with a GSG configuration with 100  $\mu$ m pitch. The device is optimised for single mode communication fiber from 1260nm to 1620nm wavelength bands. This device features extremely low capacitance and 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	$I_D$	$V_{bias} = -2.5V$	-	2	5	nA
Responsivity	R	$\lambda = 1.31\mu m$	0.8	0.9	-	A/W
		$\lambda = 1.55\mu m$	0.8	0.9	-	A/W
Forward Voltage	$V_{FWD}$	$I = 1.0mA$	-	0.6	0.8	V
Reverse Breakdown	$V_{BR}$	$I_D = 1.0\mu A$	-	-45	-50	V
Capacitance	C	$V_{bias} = -2.5V$	60	65	75	fF
3dB-Cut-Off Frequency	$F_C$	$V_{bias} = -2.5V$	-	14	16	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 <sup>2</sup>
Pad Size (Anode)	74x98	76x100	78x102	µm <sup>2</sup>
Pad Size (Cathode)	74x98	76x100	78x102	µm <sup>2</sup>
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.