

## 300 $\mu\text{m}$ InGaAs P-I-N Photodetector Die Performance Specifications

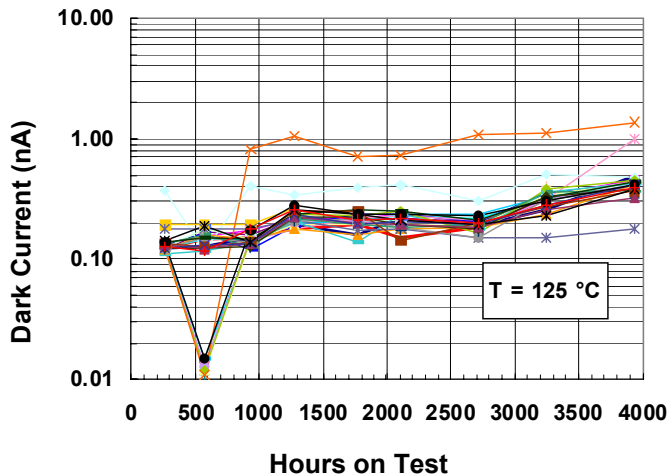
### InGaAs P-I-N Photodetector Specifications:

Optical and Electrical Characteristics @ 25°C

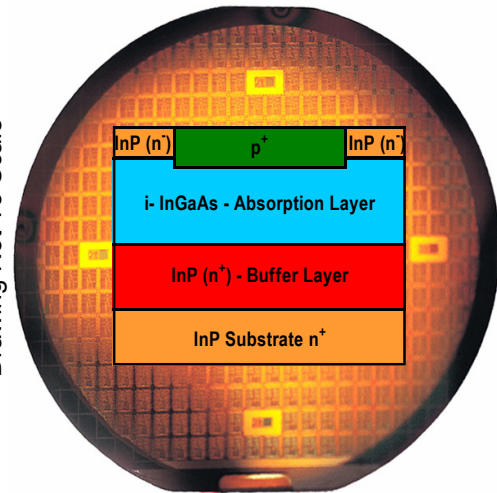
Active Area (Diameter in $\mu\text{m}$ )	300
Contact Pad ( $\mu\text{m}$ diameter)	100
Die Size (mils)	20 x 20
Dark Current (nA @ -5 V)	<0.1 (Typ.) 1.5 (Max.)
Responsivity (A/W @ 1550 nm)	0.95 (Typ.) 0.9 (Min.)
Capacitance (pF @ -5 V)	4.0 (Typ.) 6.0 (Max.)
Breakdown Voltage (V @ 10 $\mu\text{A}$ )	>20
Frequency Response (GHz @ $R_L = 50 \Omega$ )	N/A
Linearity (dBm @ -5 V 1550 nm)	+ 10 (Typ.)

### Reliability Testing

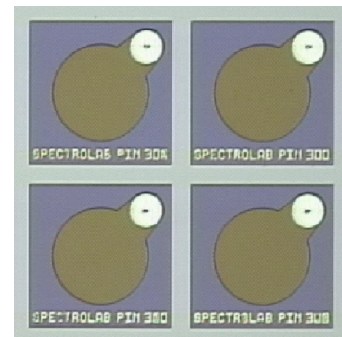
Reliability testing on a group of 34 (thirty-four) 300  $\mu\text{m}$  PINs in accordance to Tecordia GR-468-CORE 8.1.2 is on-going. The data shown below correspond to a wear-out failure lifetime of 94 years at 40 °C using an end-of-life criteria of a 2 x increase in dark current.



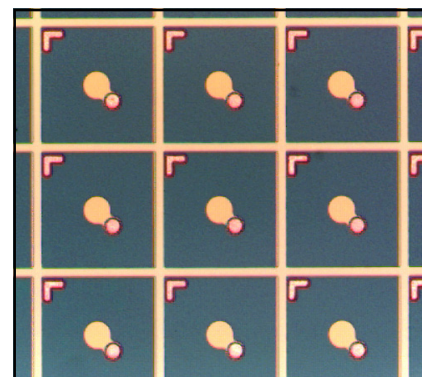
Drawing Not To Scale



InGaAs P-I-N Photodetector



300  $\mu\text{m}$  Device Dies

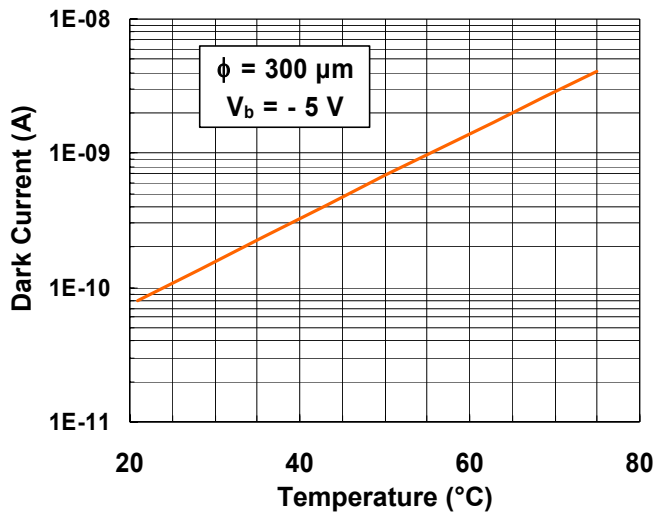


75  $\mu\text{m}$  Device Dies

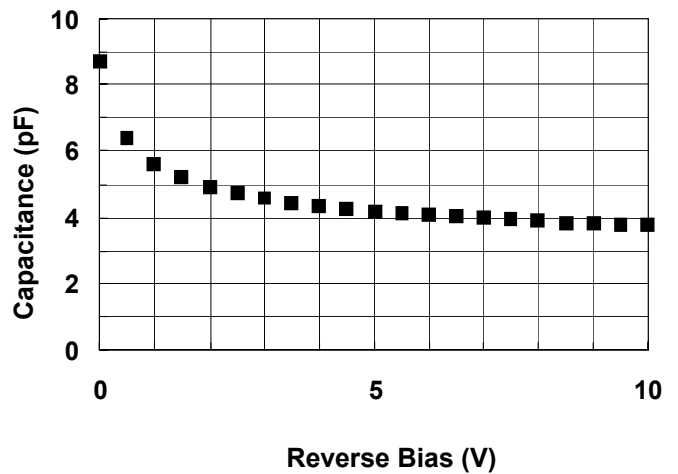
## Typical Performance (Continued)

The following performance characteristics are typical for the 300  $\mu\text{m}$  InGaAs/InP PIN monitor photodiodes.

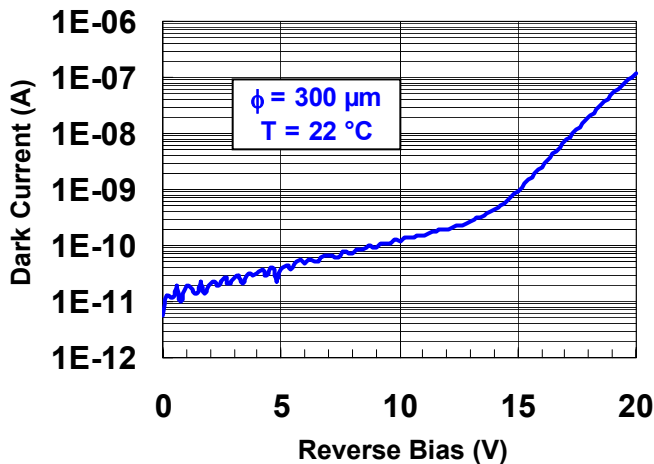
### InGaAs P-I-N Dark Current vs. Temp. Data



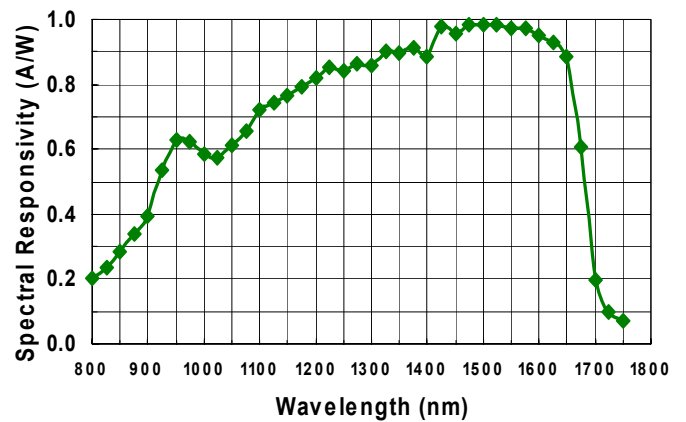
### Frequency Response



### Device Dark Currents



### InGaAs P-I-N Typical Spectral Responsivity



**ISO9001:2000**  
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The information contained on this sheet is for reference only. Actual specifications for delivered products may vary. 2/21/02