

# High Speed InGaAs p-i-n Photodiode

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## 13PD100-ST, -SMA, -FC, -SC

The 13PD100-ST, an InGaAs photodiode with a 100 $\mu$ m-diameter photosensitive region packaged in a TO-46 header and aligned in an AT&T ST active device mount, is the largest standard device enabling a 1Ghz frequency cutoff. Planar semiconductor design and dielectric passivation provide superior low noise performance. Reliability is assured by hermetic sealing and 100% purge burn-in (200°C, 15 hours, Vr = 20V). The ST receptacle is suitable for bulkhead and PC board mounting.



### Features:

- Planar Structure
- Dielectric Passivation
- 100% Purge Burn-in
- High Responsivity

### DEVICE CHARACTERISTICS

| Parameters         | Test Conditions | Minimum | Typical | Maximum | Units |
|--------------------|-----------------|---------|---------|---------|-------|
| Operating Voltage  |                 |         |         | -20     | Volts |
| Dark Current       | -5V             |         | 0.5     | 2       | nA    |
| Capacitance        | -5V             |         | 1.15    | 1.9     | pF    |
| Responsivity       | 1300nm          | 0.65    | 0.8     |         | A/W   |
| Rise/Fall          |                 |         |         | 0.5     | ns    |
| Frequency Response | (-3dB)          |         | 1       |         | GHz   |

### ABSOLUTE MAXIMUM RATINGS

|                       |                |
|-----------------------|----------------|
| Reverse Voltage       | 30 Volts       |
| Forward Current       | 10mA           |
| Reverse Current       | 500 $\mu$ A    |
| Operating Temperature | -40°C to +85°C |
| Storage Temperature   | -40°C to +85°C |
| Soldering Temperature | 250°C          |

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829 Flynn Road, Camarillo, CA 93012 • Phone: (805) 445-4500 • Fax: (805) 445-4502  
Email: [customerservice@telcomdevices.com](mailto:customerservice@telcomdevices.com) • Website: [www.telcomdevices.com](http://www.telcomdevices.com)



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