

### FEATURES

- Planar Structure
- Very High Speed
- Low Dark Current
- Dielectric Passivation
- 100% Purge Burn-in

### APPLICATIONS

- 10Gb/s Optical Receivers
- Test and Measurement



PD030-003-0xx  
Ceramic Sub-Mount



PD030-003-1xx  
TO can Package

### PRODUCT DESCRIPTION

The PD030 is an InGaAs photodiode with a photosensitive region 30 $\mu$ m in diameter. It is intended for use in very high speed, low noise communication systems (up to 10Gb/s data rates) and for use in optical test and measurement equipment.

Planar semiconductor design and dielectric passivation provide low noise performance.

Reliability is assured by hermetic sealing and 100% purge burn-in (200 $^{\circ}$ C, 15 hours,  $V_r = 20V$ ). The device can be assembled on a ceramic sub-mount or in a TO can. It can be pigtailed with SC, FC, or ST connectors (UPC or APC). It can also be mounted in an SC, ST or FC receptacle. Custom packages are an option.

### ELECTRICAL CHARACTERISTICS

Table 1: Electrical Specifications

PARAMETER	MIN	TYP	MAX	UNIT
Dark Current ( $I_D$ )	-	0.1	1.0	nA
Capacitance (Ceramic sub-mount) <sup>(1)</sup>	-	0.27	0.32	pF
Capacitance (TO can) <sup>(1)</sup>	-	0.4	0.5	pF
Responsivity at 1310nm (Ceramic sub-mount)	0.80	0.90	-	A/W
Responsivity at 1550nm (Ceramic sub-mount)	0.85	0.95	-	A/W
Responsivity at 1310nm (TO can)	0.80	0.85	-	A/W
Responsivity at 1550nm (TO can)	0.85	0.90	-	A/W
3dB bandwidth (50 $\Omega$ ) (Ceramic sub-mount) <sup>(1)</sup>	9000	11000	-	MHz
3dB bandwidth (50 $\Omega$ ) (TO can) <sup>(1)</sup>	5800	7200	-	MHz
Operating voltage	-	5	20	V

(1) 5V bias voltage

**Table 2: Absolute Maximum Ratings**

PARAMETER	MIN	MAX	UNIT
Forward Current	-	2	mA
Reverse Current	-	100	µA
Reverse Voltage	-	30	V
Optical input power	-	5	mW
Operating Case Temperature	-40	+85	°C
Storage Temperature	-40	+85	°C
Soldering temperature (10 seconds)	-	+250	°C

Stresses in excess of the absolute ratings may cause permanent damage. Functional operation is not implied under these conditions. Exposure to absolute ratings for extended periods of time may adversely affect reliability.

**ORDERING INFORMATION**

Part Number	Options
PD030-003-0xx	Custom defined size and electrical layout
PD030-003-1xx	Package: TO46, TO56, Impedance controlled TO46 Number of pins: 2, 3 Cap: Window, lens, sapphire. AR / Non-AR coated. Cap plating: Gold or nickel

Please contact Anadigics for the specific part number and pinout that suits your needs

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