

### FEATURES

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

### APPLICATIONS

- Optical Communication Systems
- Test and Measurement
- Sensing



PD100-003-0xx  
Ceramic Sub-Mount



PD100-003-1xx  
TO can Package



PD100-003-3xx  
SC/APC Pigtail



PD100-003-5xx  
FC Receptacle

### PRODUCT DESCRIPTION

The PD100 is an InGaAs photodiode with a photosensitive region 100 $\mu$ m in diameter. It is intended for use in high speed, low noise communication systems (up to 1.5Gb/s data rates) as well as applications in test and measurement and other optical power sensing devices. The large active area allows the use of multimode fiber.

Reliability is assured by hermetic sealing and 100% purge burn-in (200 $^{\circ}$ C, 15 hours, Vr = 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 ( $I_D$ )	-	0.2	2.0	nA
Capacitance (Ceramic sub-mount) <sup>(1)</sup>	-	1.0	1.1	pF
Capacitance (Receptacle, Pigtail, TO can) <sup>(1)</sup>	-	1.2	1.3	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 (Receptacle, Pigtail, TO can)	0.80	0.85	-	A/W
Responsivity at 1550nm (Receptacle, Pigtail, TO can)	0.85	0.90	-	A/W
3dB bandwidth (50 $\Omega$ ) (Ceramic sub-mount) <sup>(1)</sup>	2400	2700	-	MHz
3dB bandwidth (50 $\Omega$ ) (Receptacle, Pigtail, TO can) <sup>(1)</sup>	2000	2200	-	MHz
Optical Return Loss (Pigtail using SMF-28)	50	55	-	dB
Optical Return Loss (Receptacle, APC connector)	40	45	-	dB
Operating voltage	-	5	20	V

(1) 5V bias voltage

# PD100

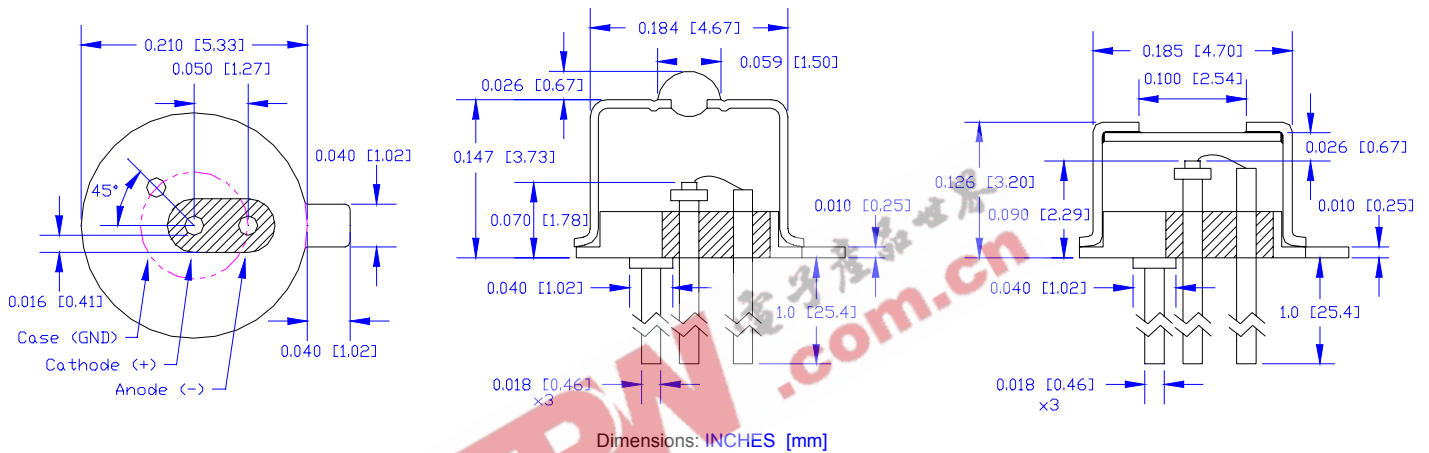


**Table 2: Absolute Maximum Ratings**

PARAMETER	MIN	MAX	UNIT
Forward Current	-	5	mA
Reverse Current	-	500	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.

## PACKAGE DIMENSIONS – PD100-003-100 and PD100-003-105



## ORDERING INFORMATION

**Table 3: Standard**

Part Number	Options
PD100-003-100	TO46, 3pin, non AR coated, gold plated lens cap
PD100-003-105	TO46, 3pin, non AR coated, gold plated flat window cap

**Table 4: Custom**

Part Number	Options
PD100-003-0xx	Custom defined size and electrical layout.
PD100-003-1xx	Package: TO46, TO56, 2 or 3 pin. Cap: Window or lens. AR or Non-AR coated. Gold or nickel plated.
PD100-003-3xx	Pigtailed: TO46, 2 or 3 pin. Fiber length, 0.5 meter, 1.0 meter Fiber type: Multimode, single mode (SMF-28) or custom supplied Connector Type: SC, ST or FC. APC or UPC
PD100-003-5xx	Receptacle, 2 or 3 pin. SC, ST or FC aligned

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

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