# PD075-HL3

## Low Cost Analog Photodiode

### FEATURES

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

### APPLICATIONS

- **Low Cost Optical Receivers to 1GHz**
- **Return Path CATV Optical Receivers**



**PD075-HL3-5xx**
**SC Receptacle**



**PD075-HL3-5xx**
**ST Receptacle**



**PD075-HL3-3xx**
**SC/APC Pigtail**



**PD075-HL3-5xx**
**FC Receptacle**

## PRODUCT DESCRIPTION

The PD075-HL3 is an InGaAs photodiode with a photosensitive region 75μm in diameter. It has been designed for use in low cost, low noise, linear analog optical receivers.
Planar semiconductor design and dielectric passivation provide low noise performance.

Reliability is assured by hermetic sealing and 100% purge burn-in (200°C, 15 hours, Vr = 20V). The device can be either pigtailed with SC, FC or ST connectors (UPC or APC) or mounted in an SC, ST of FC receptacle. Custom packages are also available.

## ELECTRICAL CHARACTERISTICS

**Table 1: Electrical Specifications**

| PARAMETER | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|
| Dark Current ($I_D$) | - | 0.1 | 1.0 | nA |
| Capacitance (1) | - | 0.8 | 0.9 | pF |
| Responsivity at 1310nm | 0.80 | 0.90 | - | A/W |
| Responsivity at 1550nm | 0.85 | 0.95 | - | A/W |
| 3dB bandwidth (75Ω bias) | 2400 | 2700 | - | MHz |
| Single Second Order (SSO) (2) | - | -70 | -65 | dBc |
| Single Triple Beat (STB) (2) | - | -80 | -70 | dBc |
| Optical Return Loss (Pigtail using SMF-28) | 50 | 55 | - | dB |
| Optical Return Loss (Receptacle, APC connector) | 40 | 45 | - | dB |
| Operating voltage | - | 5 | 20 | V |

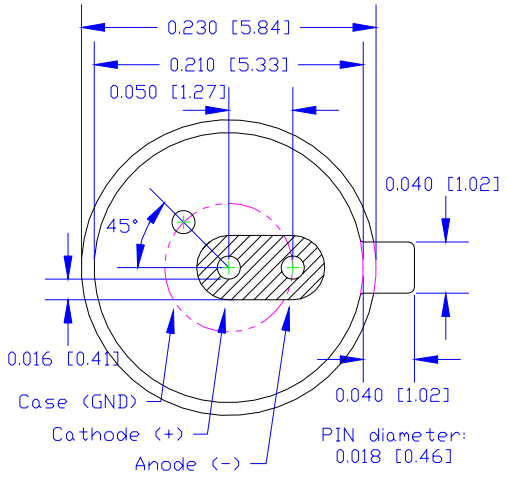
*1) 5V bias voltage*
*(2) SSO and STB measurements to 500MHz using 2 and 3 tones at 40% OMI, 0dBm optical input, 1310nm, 12V bias.*

**Table 2: Absolute Maximum Ratings**

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

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.

## PIN LOCATIONS – Standard




Dimensions: INCHES [mm]

## ORDERING INFORMATION

**Table 3: Standard**

| Part Number | Options |
|---|---|
| PD075-HL3-300 | SC/APC pigtail, 1 meter SMF-28 fiber, 3 pin |
| PD075-HL3-520 | SC/APC receptacle, 3 pin |

**Table 4: Custom**

| Part Number | Options |
|---|---|
| PD075-HL3-3xx | Number of pins: 2, 3<br>Fiber length: 0.5 meter, 1.0 meter<br>Fiber type: Single mode (SMF-28) or custom supplied<br>Connector Type: SC, ST or FC. APC or UPC |
| PD075-HL3-5xx | Number of pins: 2, 3<br>Connector Type: SC, ST or FC. Aligned for APC or UPC |

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

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