

# 1.3μm Bandpass PD

## Features

- Low capacitance and high speed with a PIN structure
- Low dark current
- Low voltage operation
- High reliability
- Pigtail type is available as an option

## Applications

- FTTH, FTTB
- Digital and analog optical communication
- Optical LAN



## Description

Reliable planar InGaAs photodiodes are packaged in hermetically sealed cans with an AR coated glass window or an AR coated ball lens. KPDE008-BP13 has the sensitive area of 80μm dia. and it can be efficiently coupled with a single and multi mode fiber through the ball lens cap. The pigtail type, KPDE008-BP13T is available with various industry - standard connectors.

## Specifications

### Absolute Maximum Ratings

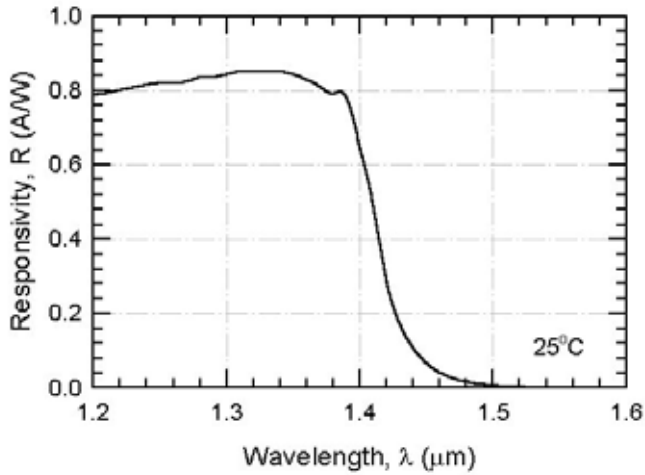
| Parameter                     | Symbol    | Value      | Units |
|-------------------------------|-----------|------------|-------|
| Reverse voltage               | $V_R$     | 20         | V     |
| Maximum optical power input   | $P_{max}$ | 10         | mW    |
| Forward current               | $I_F$     | 10         | mA    |
| Operating ambient temperature | $T_a$     | -40 to +85 | °C    |
| Storage temperature           | $T_{stg}$ | -40 to +85 | °C    |

### Characteristics ( $V_R = 5V$ , $T_a = 25^\circ C$ unless otherwise noted)

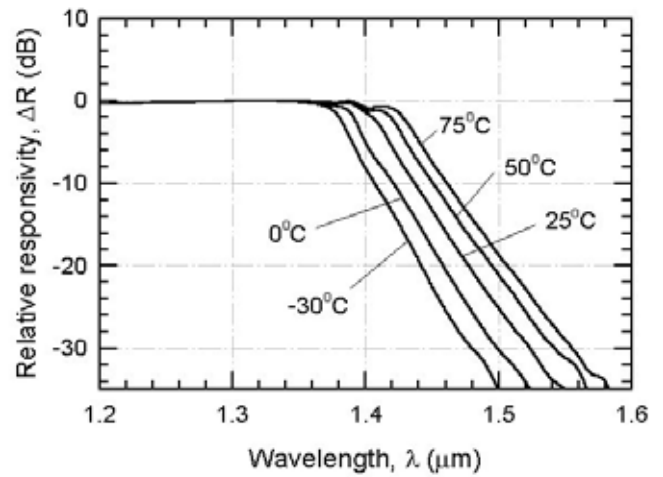
| Parameter                 |         | Symbol     | Min. | Typ. | Max.  | Unit | Test Conditions                                         |
|---------------------------|---------|------------|------|------|-------|------|---------------------------------------------------------|
| Active diameter           |         | D          |      | 80   |       | μm   |                                                         |
| Bandwidth                 |         | B          |      | 1.5  |       | GHz  | $P_{in} = -10dBm$ , small signal modulation             |
| Responsivity              | @1310nm | R13        | 0.8  |      |       | A/W  | $T_a = -10$ to $+85^\circ C$                            |
|                           | @1550nm | R15        |      |      | 0.003 | A/W  | $T_a = -10$ to $+85^\circ C$                            |
| 1550/1310 isolation ratio |         | R13/R15    |      |      | -25   | dB   | $T_a = -10$ to $+85^\circ C$                            |
| Dark current              |         | $I_D$      |      | 20   | 200   | pA   |                                                         |
| Total capacitance         |         | C          |      | 1.3  | 1.9   | pF   | f=1MHz                                                  |
| Chip capacitance          |         | $C_{chip}$ |      | 1.0  | 1.6   | pF   | f=1MHz                                                  |
| Responsivity uniformity   |         | $\Delta R$ | -0.5 |      | +0.2  | dB   | $\lambda = 1260-1360nm$<br>$T_a = -10$ to $+85^\circ C$ |

Specifications are subject to change without notice.

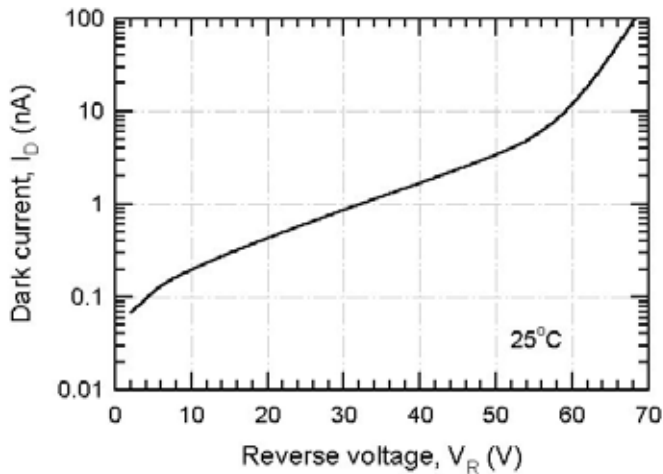
**Spectral Responsivity**



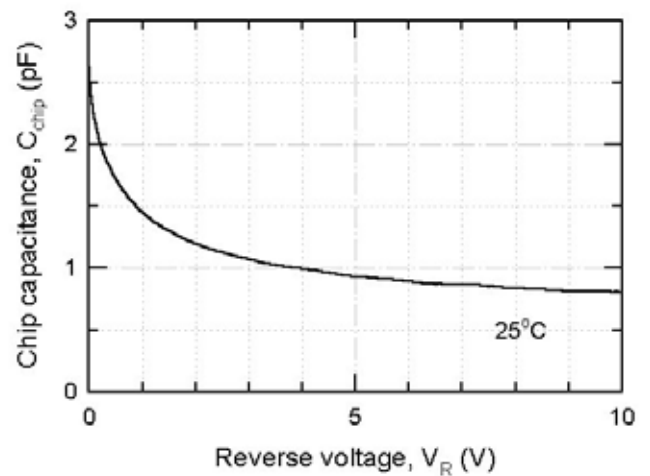
**Isolation Ratio**



**I-V Characteristics**



**C-V Characteristics**



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