# OID3

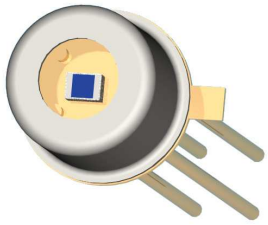
*TO 18 Photodiode*

## General Description

OID3 is a single photodiode in standard TO18 metal package. The active area of the silicon die is 0.71 x 0.71 $mm^2$.

The high optical responsitivity is due to the antireflective coating deposited on the photodiode active area.

The low dark current and the robust metal package makes the product perfect also for high temperature applications.



## Applications

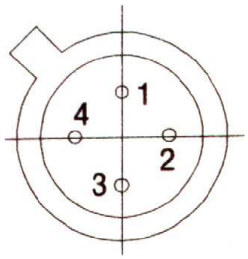
- Photointerrupters
- IR Remote Controls
- Industrial Electronics
- Photocoupler
- Control & Drive Circuit
- Photosensor Switch
- Reflective Object Sensor
- Optical Encoders
- General Purpose photodiode

## Features

- **Wide Active Area**
- **Small Dimension Optical Device**
- **High Uniformity**
- **High Responsitivity**
- **High robustness**
- **Metal shielded, TO18 standard metal CAN**
- **High immunity to electromagnetic noise**
- **Compliant to RoHS European Directive**

## Pin Functions

| No. | Name | Function |
|---|---|---|
| 1 | A | Photodiode Anode |
| 2 | | N.C. |
| 3 | | N.C. |
| 4 | K | Photodiode Cathode |




Top view

## Ordering Information

| | |
|---|---|
| **OID3** | Single TO 18 Photodiode with Active Area 0.71 x 0.71 $mm^2$, |

## ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Min | Max | Unit |
|---|---|---|---|---|
| $T_A$ | Operating Temperature Range | -25 | 85 | ℃ |
| Ts | Storage temperature | -40 | 100 | ℃ |
| Tsol | Lead temperature (solder) 5s | | 270 | ℃ |
| $V_{R(BR)}$ | Reverse breakdown voltage | 52 | | V |
| Id | Dark current @ $T_A$=25℃ Vr=10V | | 100 | pA |
| Pd | Power dissipation | | 80 | mW |

*Stresses beyond those listed under "Absolute Maximum Ratings" may cause permanent damage to the device. These are stress ratings only, and functional operation of the device at these or any other conditions beyond those indicated in the operational sections of the specifications is not implied. Exposure to absolute maximum rated conditions for extended periods may affect device reliability.*

## ELECTRICAL CHARACTERISTICS

$T_A$ = 25℃ unless otherwise noted.

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Rλ | Responsitivity | $T_A$=25℃ Vr=10V λ=880nm Φ=10uW | 0.5 | 0.65 | | A/W |
| $\lambda_p$ | Peak responsitivity | T=25℃ Vr=10V | | 900 | | nm |
| Δλ | Spectral bandwidth @ 50% | T=25℃ Vr=10V | 600 | | 1000 | nm |

## AC SWITCHING CHARACTERISTICS

$T_A$ = 25℃ unless otherwise noted.

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| BW | Bandwidth (@ -3dB) | Vr=10V | 3 | | | MHz |
| C | Capacitance | Vr=10V f=1MHz Φ=0 | | | 50 | pF |

## MECHANICAL CHARACTERISTICS

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| A | Active area | | | 0.5 | | $mm^2$ |
| L | Length of the active area | | | 0.71 | | mm |
| W | Width of the active area | | | 0.71 | | mm |



Units=mm Mechanical tolerance=+/-0.2mm Die is in the center of the package, with positioning tolerance +/- 0.050mm.