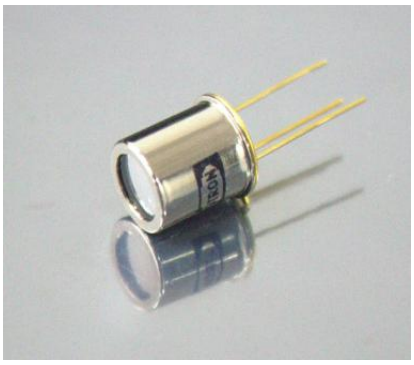
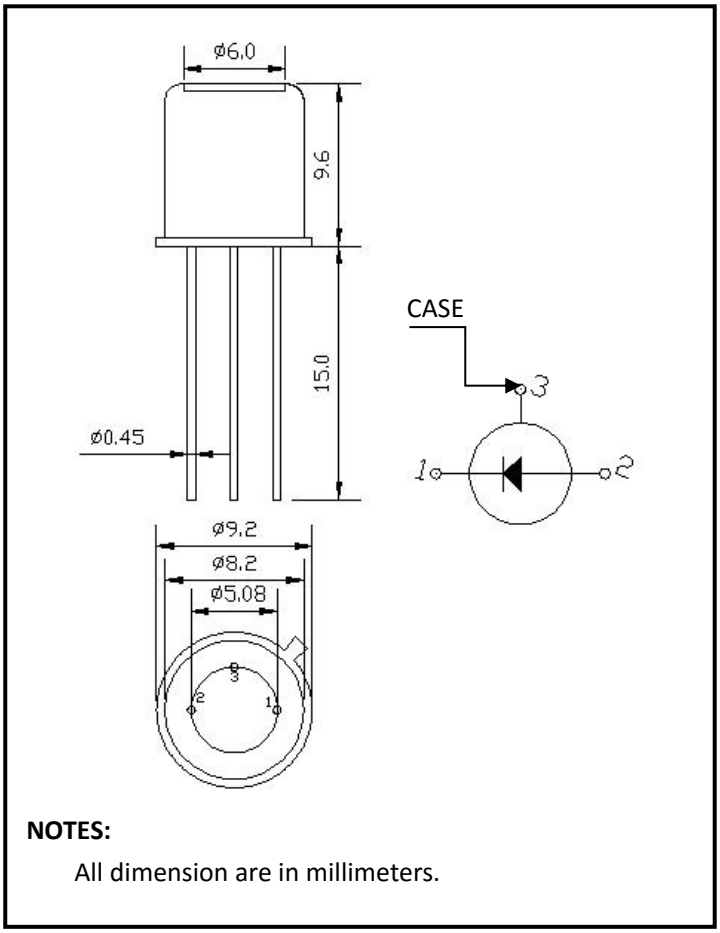
# Silicon Photodiode

## OSD18-254






**NOTES:**

All dimension are in millimeters.

## Description

The OSD18-254 is high sensitivity silicon photodiode for Monochromatic light with interference filter window. It Has a peak sensitivity wavelength at 254nm.

## Features

* High sensitivity response
* Wide angular response
* High reliability in demanding environments
* Operating temperature is from -40 to +100℃
* Storage temperature is from -40 to +100℃

## General Ratings

* Type Silicon Photodiode
* Similar to S2684-254
* Chip active area: 4.3*4.3mm
* Low dark current

## Applications

* UV detect
* Optical measurement equipment
* Analytical/medical Instrument
* Pollution monitoring



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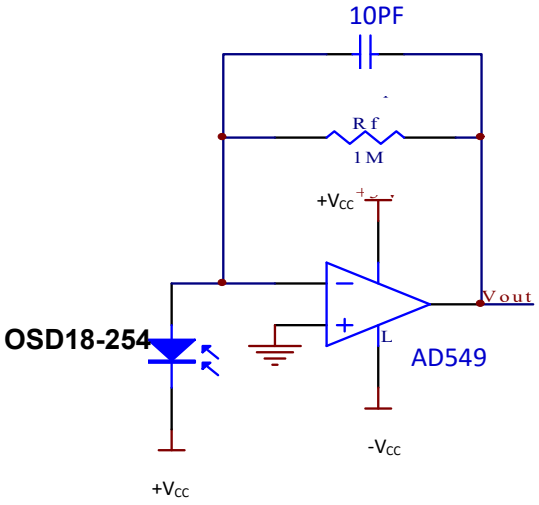
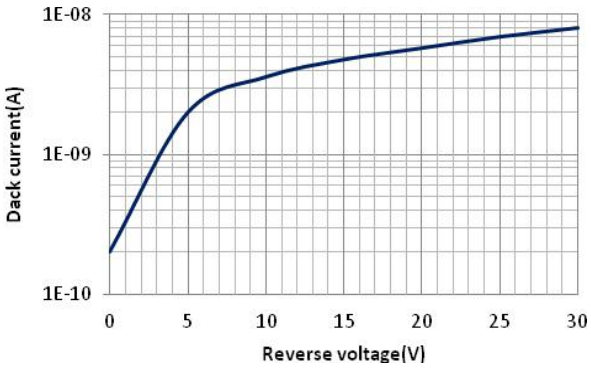
## Absolute Maximum Ratings (Ta=25℃)

| Parameter | Symbol | Condition | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Dark current | $I_D$ | $V_R$=10mV | | 0.2 | | nA |
| | | $V_R$=10V | | 3.5 | | |
| Tempcoeffi-cient of $I_D$ | $T_{CID}$ | | | 0.18 | | times/℃ |
| Reverse breakdown voltage | $V_{(BR)R}$ | IR=100μA Ev=0lx | | | 60 | V |
| Junction Capacitance | $C_J$ | $V_R$=0V f=1MHz | | 480 | | pF |
| | | $V_R$=10V f=1MHz | | 72 | | |
| Photo sensitivity | $S_R$ | 254nm | | 0.02 | | A/W |
| Spectral Application Range | $\lambda_{range}$ | | 240 | | 270 | nm |
| Spectral Response-Peak | $\lambda_p$ | | | 254 | | nm |
| Shunt resistance | Rsh | $V_R$=10mV | | 0.5 | | GΩ |
| Rsh Temperature Coefficient | TC Rsh | | | 0.18 | | %/℃ |
| Angular Resp 50% Resp Pt | $\theta_{1/2}$ | | | ±55 | | Degrees |
| Noise Equivalent Power | NEP | $V_R$ =10V λ=254nm | | $1.86\times10^{-16}$ | | $W/Hz^{1/2}$ |
| Specific Detectivity | D* | $V_R$ =10V λ=254nm | | $2.31\times10^{16}$ | | $cm(Hz/W)^{1/2}$ |

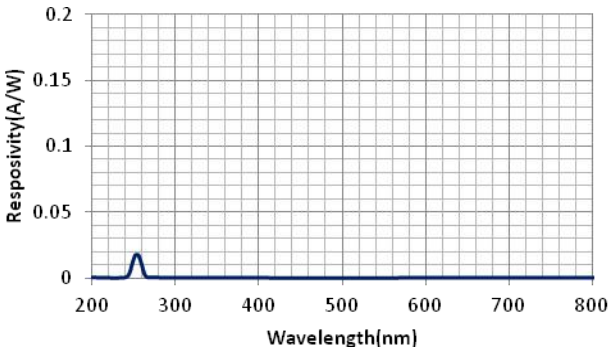
## ■Typical application circuit



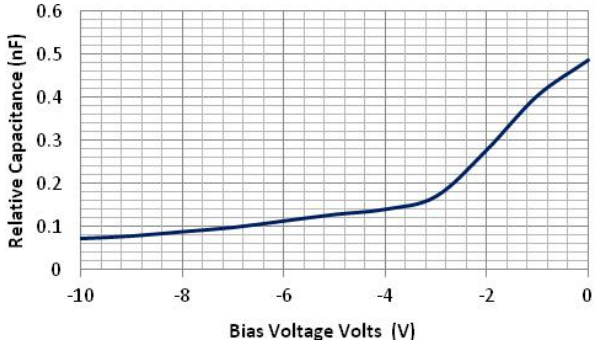
## ■Dark current vs. reverse voltage




## ■ Spectral response




## ■Relative Junction Capacitance VS. Voltage



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