

# Fiber Optic Detector

OPF430



## Features:

- Electrically isolated metal can package
- High speed, low capacitance
- Metal can for improved noise immunity
- 100MHz operation minimum



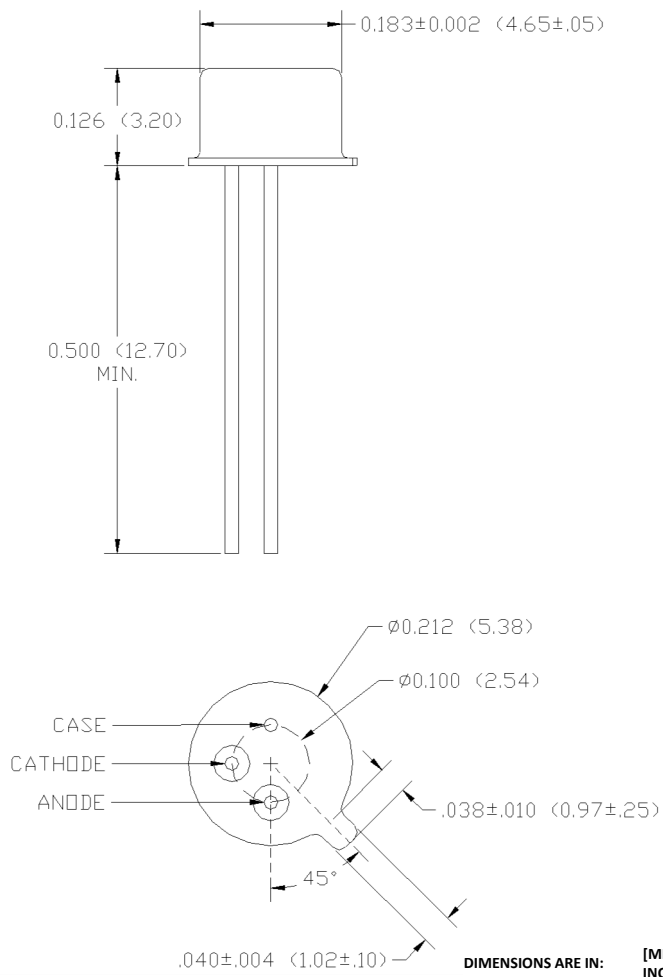
## Description:

The OPF430 is a low noise silicon PIN photodiode mounted in a low cost package for fiber optic applications. It offers fast response at moderate bias and is compatible with LED and laser diode sources in the 800-1000 nm wavelength region. Low capacitance improves signal to noise performance in typical short haul LAN applications.

The OPF430 is designed to be compatible with multimode optical fibers from 50/125 to 200/300 microns.

## Applications:

- Industrial Ethernet equipment
- Copper-to-fiber media conversion
- Intra system fiber optic links
- Video surveillance systems



RoHS

## General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

### Electrical Specifications

#### Absolute Maximum Ratings ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

|                                             |                                                   |
|---------------------------------------------|---------------------------------------------------|
| Storage Temperature Range                   | -65 $^{\circ}\text{C}$ to +150 $^{\circ}\text{C}$ |
| Operating Temperature Range                 | -55 $^{\circ}\text{C}$ to +125 $^{\circ}\text{C}$ |
| Lead Soldering Temperature <sup>(1)</sup>   | 260 $^{\circ}\text{C}$                            |
| Continuous Power Dissipation <sup>(2)</sup> | 200 mW                                            |
| Maximum Reverse Voltage                     | 100 VDC                                           |

#### Electrical Characteristics ( $T_A = 25\text{ }^{\circ}\text{C}$ unless otherwise noted)

| SYMBOL      | PARAMETER                | MIN  | TYP  | MAX | UNITS | TEST CONDITIONS                                                              |
|-------------|--------------------------|------|------|-----|-------|------------------------------------------------------------------------------|
| R           | Responsivity             | 0.45 | 0.55 |     | A/W   | $V_R = 5.0\text{ V}$ ; 50/125 $\mu\text{m}$ fiber; $\lambda = 850\text{ nm}$ |
| $I_D$       | Dark Current             |      | 0.1  | 5.0 | nA    | $V_R = 5.0\text{ V}$                                                         |
| $\lambda_p$ | Peak Response Wavelength |      | 905  |     | nm    |                                                                              |
| $t_r$       | Output Rise Time         |      | 2.0  |     | ns    | $V_R = 5\text{ V}$ ; $R_L = 50\text{ }\Omega$ , 10%-90%                      |
| $C_T$       | Total Capacitance        |      | 1.5  | 2.0 | pF    | $V_R = 5\text{ V}$                                                           |
| FoV         | Field of View            |      | 80   |     | deg   |                                                                              |

#### Notes:

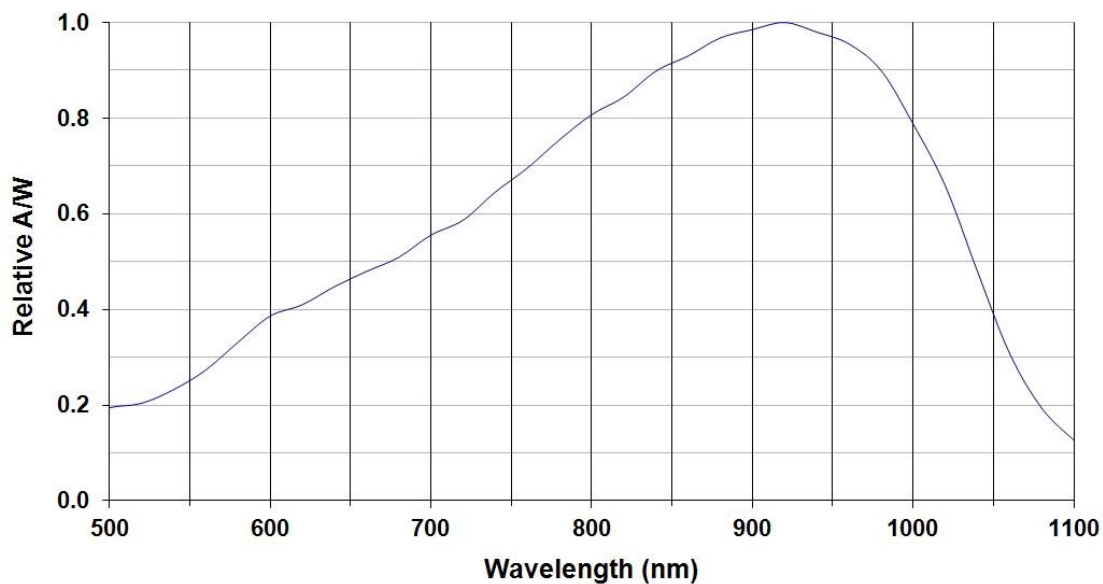
- Maximum of 5 seconds with soldering iron. Duration can be extended to 10 seconds when flow soldering. RMA flux is recommended.
- De-rate linearly at 1.60 mW/ $^{\circ}\text{C}$  above 25  $^{\circ}\text{C}$ .

#### General Note

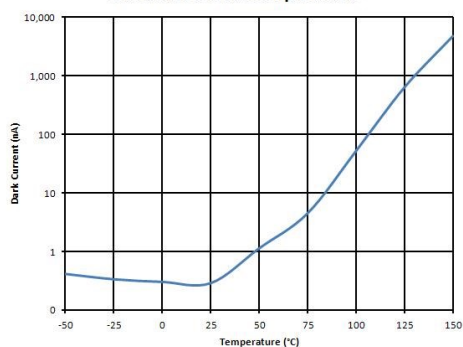
TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.

### Performance

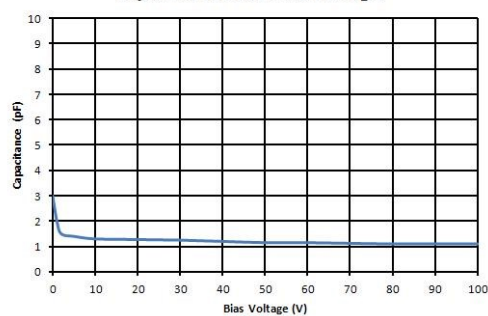
#### Typical Responsivity



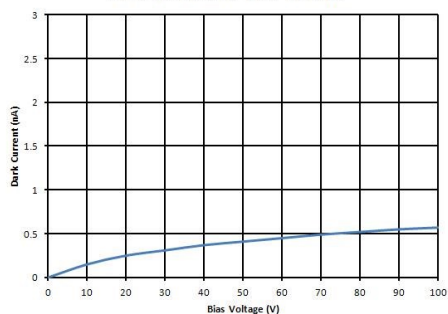
#### Dark Current vs. Temperature



#### Capacitance vs. Bias Voltage



#### Dark Current vs. Bias Voltage



#### General Note

TT Electronics reserves the right to make changes in product specification without notice or liability. All information is subject to TT Electronics' own data and is considered accurate at time of going to print.