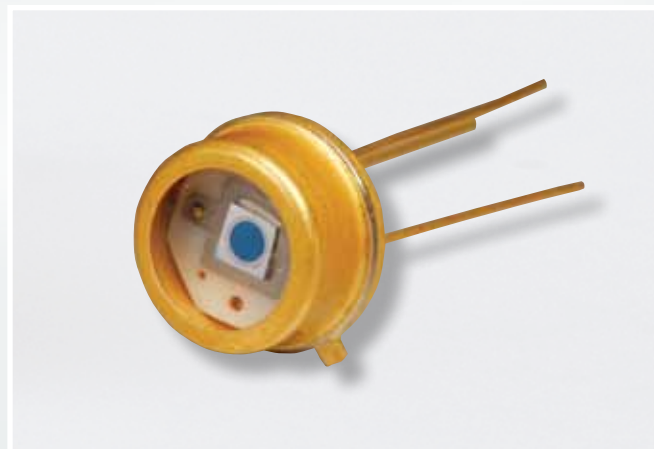


# FCI-InGaAs-XXX-X

## Large Active Area InGaAs Photodiodes

FCI-InGaAs-XXX-X series with active area sizes of 1mm, 1.5mm and 3mm, are part of OSI Optoelectronics's large active area IR sensitive detectors which exhibit excellent responsivity from 1100nm to 1620nm, allowing high sensitivity to weak signals. These large active area devices are ideal for use in infrared instrumentation and monitoring applications. The photodiode chip are isolated in TO-46 or TO-5 packages with a broadband double sided AR coated flat window. FCI-InGaAs-3000-X come with different shunt resistance values of 5, 10, 20, and 40M $\Omega$ .



### APPLICATIONS

- Optical Instrumentation
- Power Measurement
- IR Sensing
- Medical Devices

### FEATURES

- High Responsivity
- Large Active Area Diameter
- Low Noise
- Spectral Range 900nm to 1700nm

### Absolute Maximum Ratings

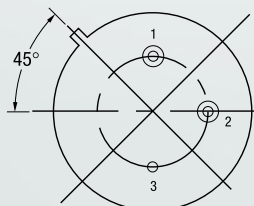
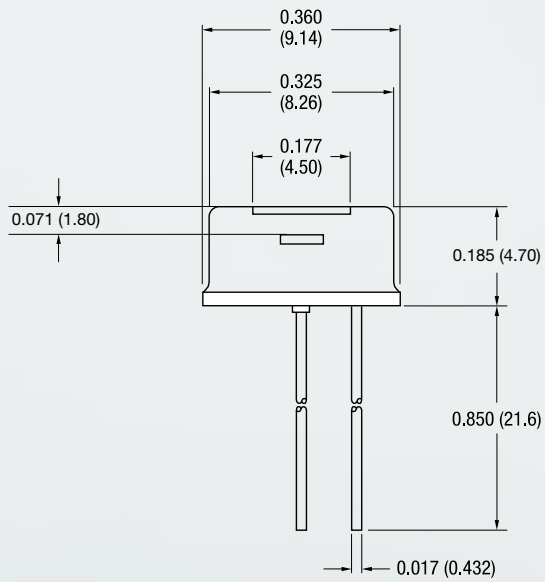
| PARAMETERS            | SYMBOL            | MIN | MAX  | UNITS |
|-----------------------|-------------------|-----|------|-------|
| Storage Temperature   | T <sub>stg</sub>  | -55 | +125 | °C    |
| Operating Temperature | T <sub>op</sub>   | -40 | +75  | °C    |
| Soldering Temperature | T <sub>slid</sub> | --- | +260 | °C    |

### Electro-Optical Characteristics

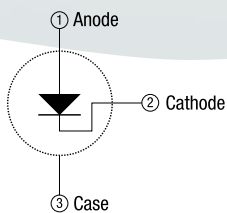
T<sub>A</sub> = 23°C

| PARAMETERS           | SYMBOL          | CONDITIONS           | FCI-InGaAs-1000 |          |     | FCI-InGaAs-1500 |          |     | FCI-InGaAs-3000-X |          |      | UNITS      |
|----------------------|-----------------|----------------------|-----------------|----------|-----|-----------------|----------|-----|-------------------|----------|------|------------|
|                      |                 |                      | MIN             | TYP      | MAX | MIN             | TYP      | MAX | MIN               | TYP      | MAX  |            |
| Active Area Diameter | AA <sub>φ</sub> | ---                  | ---             | 1.0      | --- | ---             | 1.5      | --- | ---               | 3.0      | ---  | mm         |
| Responsivity         | R <sub>λ</sub>  | λ=1310nm             | 0.80            | 0.90     | --- | 0.80            | 0.90     | --- | 0.80              | 0.90     | ---  | A/W        |
|                      |                 | λ=1550nm             | 0.90            | 0.95     | --- | 0.90            | 0.95     | --- | 0.90              | 0.95     | ---  |            |
| Capacitance          | C <sub>j</sub>  | V <sub>R</sub> =0V   | ---             | 80       | 200 | ---             | 200      | 450 | ---               | 750      | 1800 | pF         |
| Shunt Resistance     | R <sub>SH</sub> | V <sub>R</sub> =10mV | 30              | ---      | --- | ---             | 20       | --- | ---               | 20       | ---  | M $\Omega$ |
| Max. Reverse Voltage | ---             | ---                  | ---             | ---      | 5   | ---             | ---      | 2   | ---               | ---      | 2    | V          |
| Max. Reverse Current | ---             | ---                  | ---             | ---      | 1   | ---             | ---      | 2   | ---               | ---      | 2    | mA         |
| Max. Forward Current | ---             | ---                  | ---             | ---      | 10  | ---             | ---      | 10  | ---               | ---      | 10   | mA         |
| NEP                  | ---             | ---                  | ---             | 2.45E-14 | --- | ---             | 3.01E-14 | --- | ---               | 4.25E-14 | ---  | W/√Hz      |

### FCI-InGaAs-3000-X

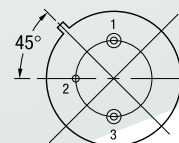
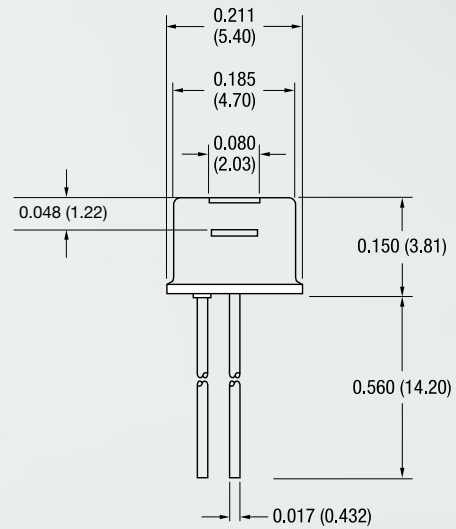


Bottom View

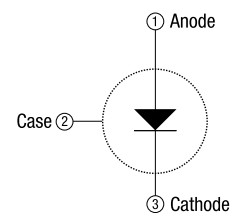


Pin Circle Diameter = 0.200 (5.08)

### FCI-InGaAs-1000 & FCI-InGaAs-1500



Bottom View



Pin Circle Diameter = 0.100 (2.54)

#### Notes:

- All units in inches (mm).
- All tolerances: 0.005 (0.125)
- The flat window devices have broadband AR coatings centered at 1310nm
- The thickness of the flat window=0.008 (0.21)