

## Sensitivity Wavelength Range: 350nm ~ 1100nm

The MT03-072, is ideally suited for nulling or beam centering applications.

Custom packaging options for this die are also available.

### FEATURES

- > Peak Sensitivity: 950nm
- > TO-8, 6 pin Hermetic Package
- > Active Area: 8.0mm Diameter
- > 50mm<sup>2</sup> Active Area w/200um Gaps

### APPLICATIONS

- > Optical Tweezers
- > Beam Centering
- > Beam Nulling
- > Position Centering
- > Atomic Force Microscopes (AFM)



## Absolute Maximum Ratings

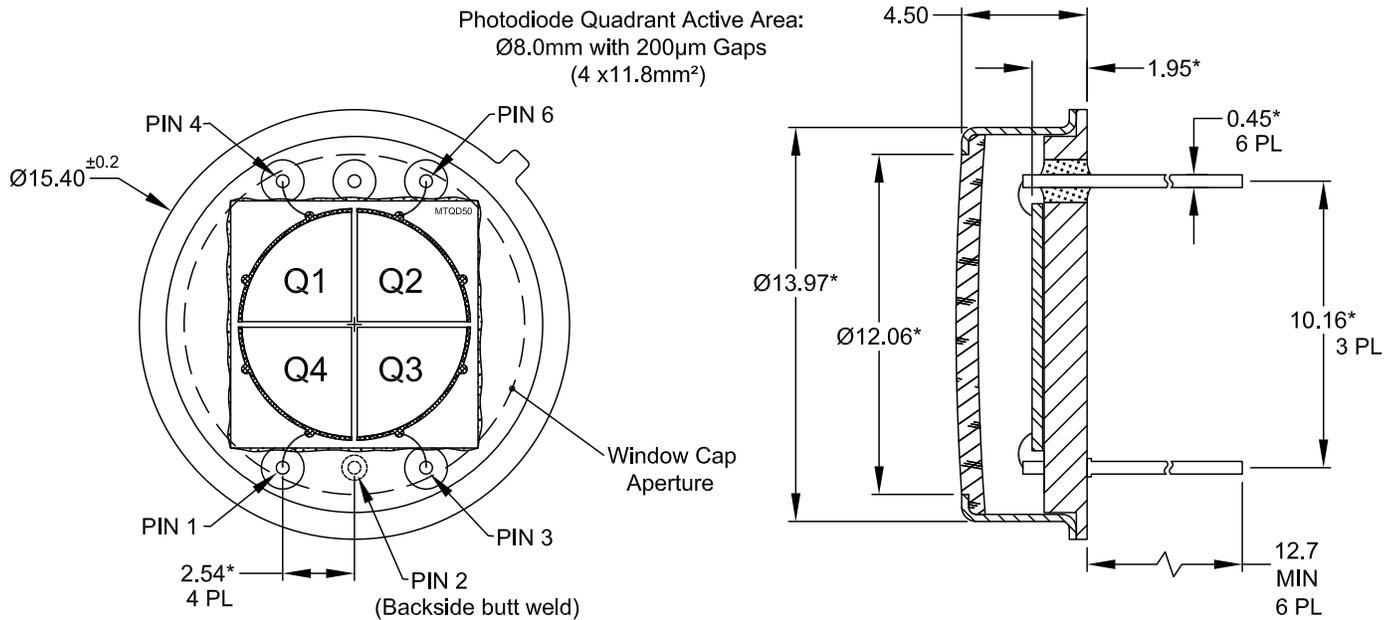
| ITEMS                        | SYMBOL | RATINGS     | UNIT |
|------------------------------|--------|-------------|------|
| Active Area                  | Φ      | 8.0         | mm   |
| Operating Temperature Range  | Topr   | -40 to +85  | °C   |
| Storage Temperature Range    | Tstg   | -40 to +125 | °C   |
| Lead Soldering Temperature*1 | Tls    | 260         | °C   |

\*1: Time 5 Sec max, Position: Up to 3mm from the body.

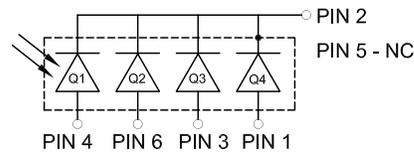
## Electrical & Optical Characteristics (Ta = 22°C)

| ITEMS             | SYMBOL          | CONDITIONS     | MIN | TYP                 | MAX  | UNIT                |
|-------------------|-----------------|----------------|-----|---------------------|------|---------------------|
| Breakdown Voltage | V <sub>BR</sub> | IR=10uA        | 50  | --                  | --   | V                   |
| Sensitivity Range | λ               | VR=0V          | 350 | --                  | 1100 | nm                  |
| Dark Current      | I <sub>d</sub>  | VR=12V         | --  | 3                   | 30   | nA                  |
| NEP @ 880nm       |                 | VR=0V; RL=50Ω  | --  | 2x10 <sup>-14</sup> | --   | W/Hz <sup>1/2</sup> |
| Capacitance       | C <sub>j</sub>  | VR=0V; 1MHz    | --  | 330                 | --   | pF                  |
| Capacitance       | C <sub>j</sub>  | VR=12V; 1MHz   | --  | 80                  | --   | pF                  |
| Responsivity      | R               | λ=436nm        | .18 | .21                 | --   | A/W                 |
| Responsivity      | R               | λ=880nm        | .48 | .53                 | --   | A/W                 |
| Forward Voltage   | V <sub>f</sub>  | IF=2mA         | --  | --                  | 0.8  | V                   |
| Shunt Resistance  | R <sub>sh</sub> | VR= +/-10mV    | 10  | 300                 | --   | MΩ                  |
| Crosstalk         | C <sub>t</sub>  | VR=0V; λ=880nm | --  | 2                   | 5    | %                   |

**Package Dimensions**



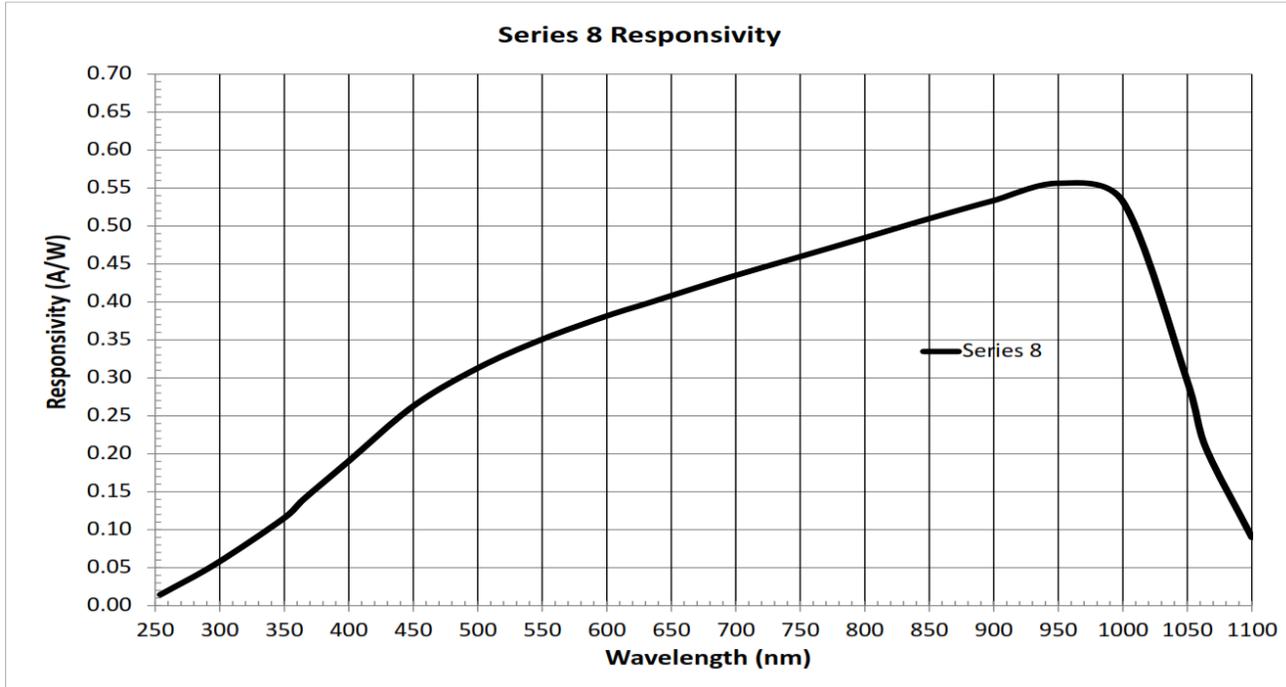
Window Cap removed to show internal construction



**Notes:**

1. Die attach Quad PD chip to center of header base within ±0.15mm.
2. Dimensions with an asterisk (\*) are for reference only.

### Spectral Responsivity



The information contained herein is subject to change without notice.

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