

Enhanced Sensitivity Wavelengths: 250nm-1750nm

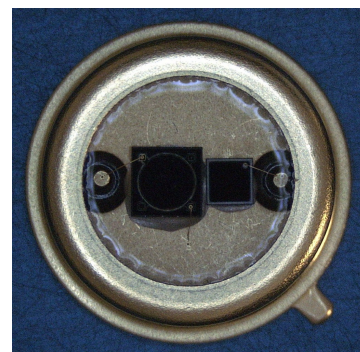
The MT03-041 is a Multi Spectral Photodiode in a hermetic TO-39 metal can package. It is specifically designed for use with wavelengths ranging from 250nm Ultraviolet (UV) to 1750nm Short Wave Infrared (SWIR).

FEATURES

- > Ultra low noise
- > High Shunt Resistance
- > Wide Dynamic Range
- > 365nm Enhanced Silicon/1300nm InGaAs SWIR

APPLICATIONS

- > Medical
- > Industrial
- > Communications
- > Security



Absolute Maximum Ratings



| ITEMS | SYMBOL | RATINGS | UNIT |
|-------------------------------|--------|------------|------|
| Reverse Voltage | Vr | 50 | V |
| Operating Temperature Range | Topr | -40 ~ +100 | °C |
| Storage Temperature Range | Tstg | -55 ~ +125 | °C |
| Lead Soldering Temperature *1 | Tls | 260 | °C |

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

Electrical & Optical Characteristics (1.2mm Silicon-PD) Ta = 23°C

| ITEMS | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------------|-------------|-------------------------|------|------|------|------------|
| Dark Current | Id | Vr=5V | -- | 0.1 | 0.5 | nA |
| Forward Voltage | Vf | If=2mA | -- | -- | 0.8 | V |
| Breakdown Voltage | Vb | Ir=10uA | 50 | 150 | -- | V |
| Spectral Sensitivity Range | λ | -- | 250 | -- | 1100 | nm |
| Peak Sensitivity Wavelength | λ_p | -- | -- | 950 | -- | nm |
| Responsivity | Rt | Vr=0V, λ =365nm | 0.20 | 0.24 | -- | A/W |
| Responsivity | Rt | Vr=0V, λ =633nm | -- | 0.40 | -- | A/W |
| Rise Time @ 365nm | Vf | Vr=0V, RI=1k Ω | -- | 100 | -- | ns |
| Junction Capacitance | Cj | at 1MHz, Vr=0V | -- | 20 | -- | pF |
| Junction Capacitance | Cj | at 1MHz, Vr=5V | -- | 6 | 8 | pF |
| Shunt Resistance | Rsh | Vr=10mV | 1000 | 2000 | -- | m Ω |

Electrical & Optical Characteristics (1.0mm InGaAs-PD) Ta = 25°C

| ITEMS | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------------|-------------|--------------------------|-----|------|------|------|
| Dark Current | I_d | $V_r=2V$ | -- | -- | 500 | nA |
| Forward Voltage | V_f | $I_f=10mA$ | -- | 0.6 | -- | V |
| Breakdown Voltage | V_b | $I_r=10\mu A$ | 5 | -- | -- | V |
| Spectral Sensitivity Range | λ | -- | 600 | -- | 1750 | nm |
| Peak Sensitivity Wavelength | λ_p | -- | -- | 1590 | -- | nm |
| Responsivity | R_t | $V_r=0V, \lambda=1300nm$ | -- | 0.6 | -- | A/W |
| Junction Capacitance | C_j | $V_r=0V$ | -- | 200 | -- | pF |

Package Dimensions

