

### Enhanced Sensitivity Wavelengths: 250nm-1750nm

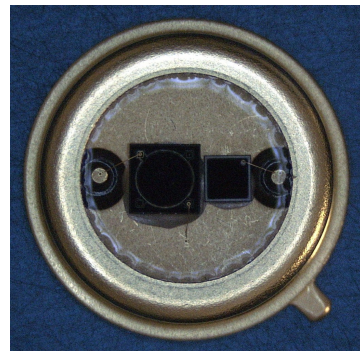
The MT03-041 is a Multi Spectral Photodiode in a hermetic TO-39 metal can package. It is specifically designed for use with wavelengths ranging from 250nm Ultraviolet (UV) to 1750nm Short Wave Infrared (SWIR).

#### 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.

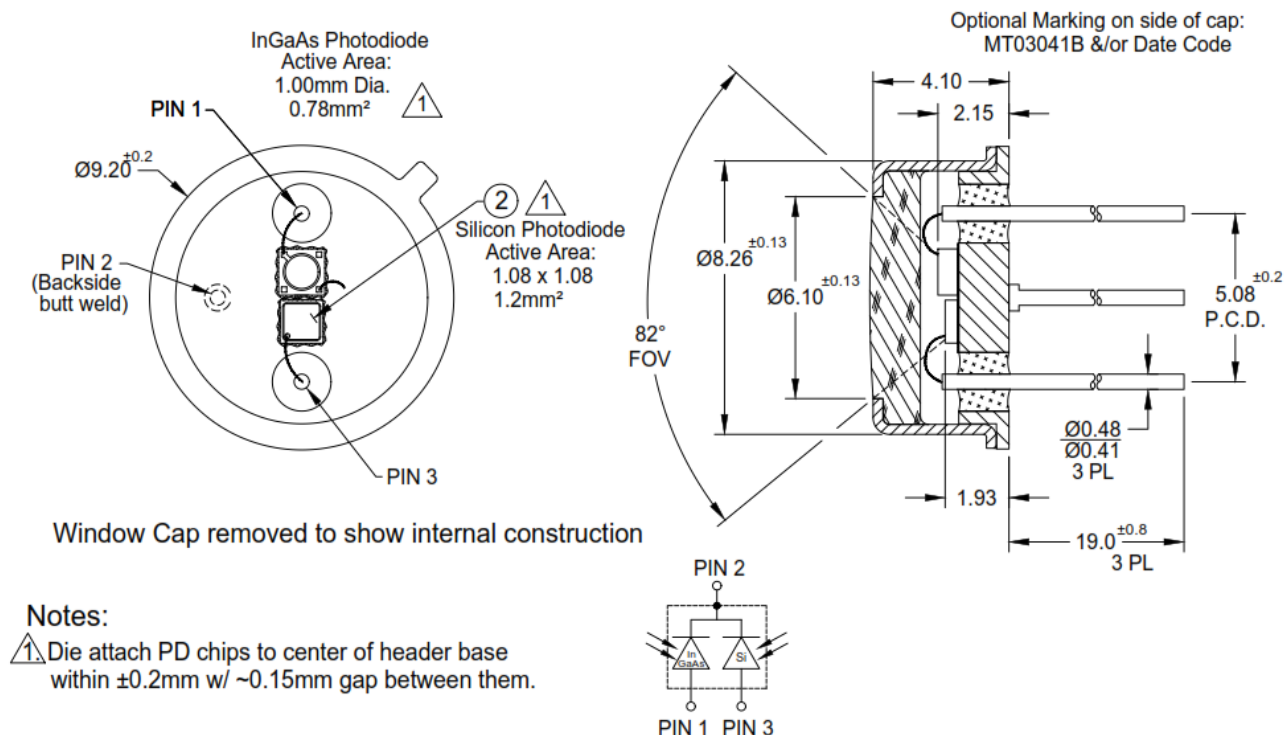
### Electrical & Optical Characteristics (1.2mm Silicon-PD) Ta = 23°C

| ITEMS                     | SYMBOL      | CONDITIONS              | MIN | TYP  | MAX  | UNIT |
|---------------------------|-------------|-------------------------|-----|------|------|------|
| Dark Current              | Id          | Vr=1V                   | --  | --   | 1.0  | nA   |
| Forward Voltage           | Vf          | If=2mA                  | --  | --   | 0.8  | V    |
| Breakdown Voltage         | Vb          | Ir=10uA                 | 3   | --   | --   | V    |
| Spectral Sensivity Range  | $\lambda$   |                         | 250 | --   | 1100 | nm   |
| Peak Sensivity Wavelength | $\lambda_p$ |                         | --  | 950  | --   | nm   |
| Responsivity              | R           | Vr=0V, $\lambda$ =365nm | --  | 0.22 | --   | A/W  |
| Responsivity              | R           | Vr=0V, $\lambda$ =633nm | --  | 0.40 | --   | A/W  |
| Response Time             | Tr          | Vr=1V, RI=50Ω           | --  | 100  | --   | ns   |
| Junction Capacitance      | Cj          | Vr=0V                   | --  | 20   | --   | pF   |

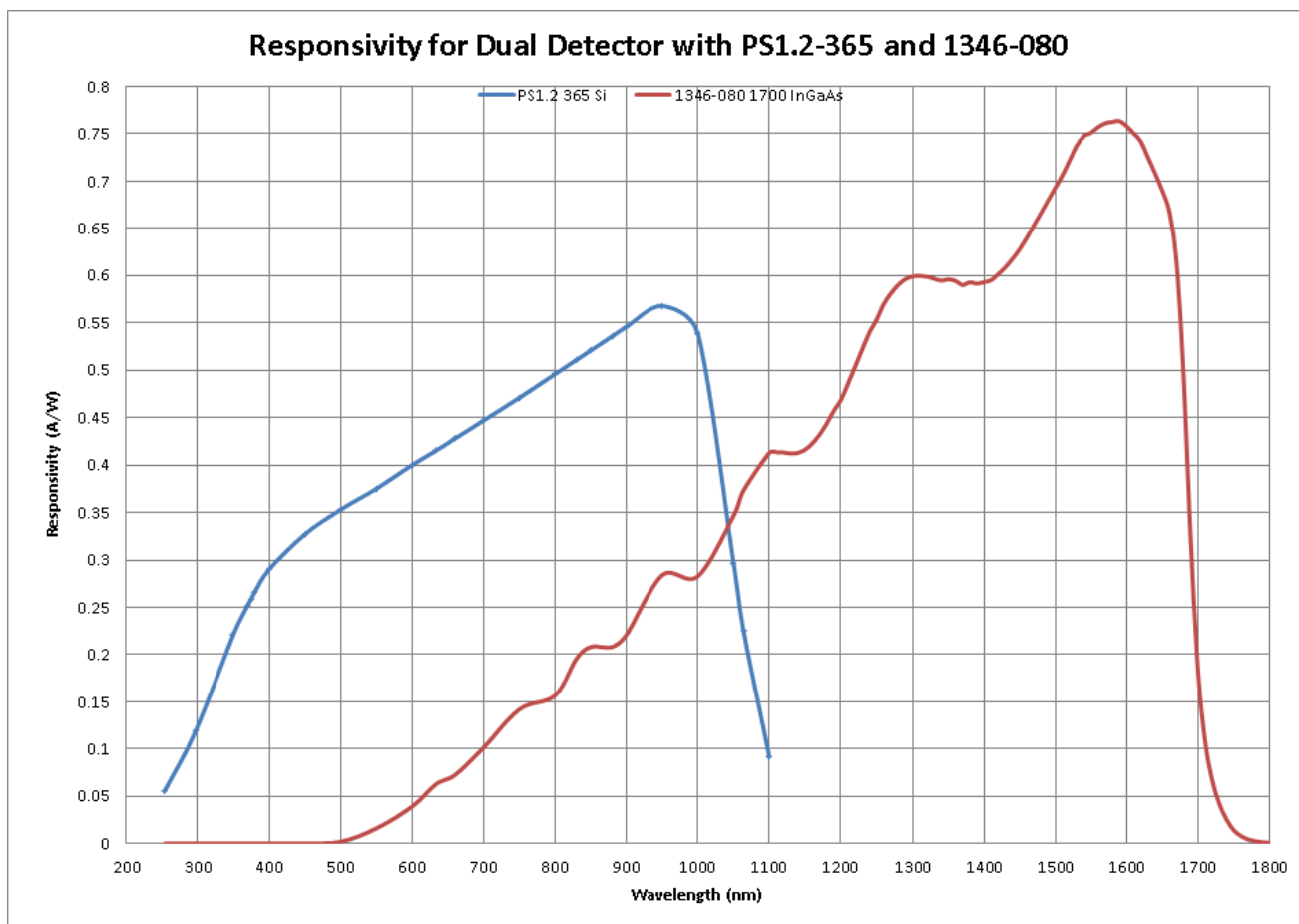
## Electrical & Optical Characteristics (1.0mm InGaAs-PD) Ta = 25°C

| ITEMS                     | SYMBOL      | CONDITIONS               | MIN | TYP  | MAX  | UNIT       |
|---------------------------|-------------|--------------------------|-----|------|------|------------|
| Dark Current              | $I_d$       | $V_r=1V$                 | --  | --   | 2.0  | $\mu A$    |
| Forward Voltage           | $V_f$       | $I_f=2mA$                | --  | --   | 0.8  | V          |
| Breakdown Voltage         | $V_b$       | $I_r=10\mu A$            | --  | --   | 3    | V          |
| Spectral Sensivity Range  | $\lambda$   |                          | 600 | --   | 1750 | nm         |
| Peak Sensivity Wavelength | $\lambda_p$ |                          | --  | 1590 | --   | nm         |
| Responsivity              | R           | $V_r=0V, \lambda=1330nm$ | --  | 0.60 | --   | A/W        |
| Responsivity              | R           | $V_r=0V, \lambda=1550nm$ | --  | 0.75 | --   | A/W        |
| Response Time             | $T_r, T_f$  | $V_r=1V, R_l=50\Omega$   | --  | 10   | --   | ns         |
| Junction Capacitance      | $C_j$       | $V_r=0V$                 | --  | 75   | --   | pF         |
| Shunt Resistance          | $R_{sh}$    | $V_r=10mV$               | --  | 2    | --   | M $\Omega$ |

## Package Dimensions



## Responsivity



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