

Sensitivity Wavelength Range: InGaAs 800-2600nm / Si 250-1100nm

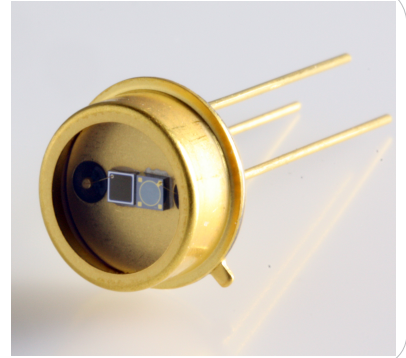
The MTPD2601SIW-100 from Marktech, a high sensitivity and high reliability product series, is ideally suited for applications requiring a wide spectral bandwidth. Custom packaging for this is also available.

FEATURES

- > High Speed Response
- > TO-39 Hermetically Sealed Package
- > Active Area of 1.0mm Φ / High Sensitivity
- > Spectral Range Si: 250-1100 InGaAs: 800-2600nm

APPLICATIONS

- > High Speed Optical Communications
- > Industrial Controls
- > Gas/Water Analysis
- > LIDAR
- > Medical



Absolute Maximum Ratings (Ta=25°C)



| ITEMS | SYMBOL | RATINGS | UNIT |
|-----------------------------|--------|-------------|------|
| Active Area | Φ | 1.0 | mm |
| Operating Temperature Range | Topr | -40 to +85 | °C |
| Storage Temperature Range | Tstg | -40 to +125 | °C |

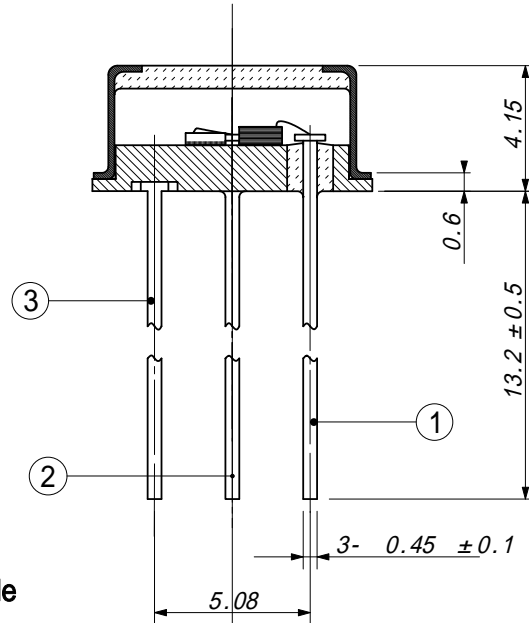
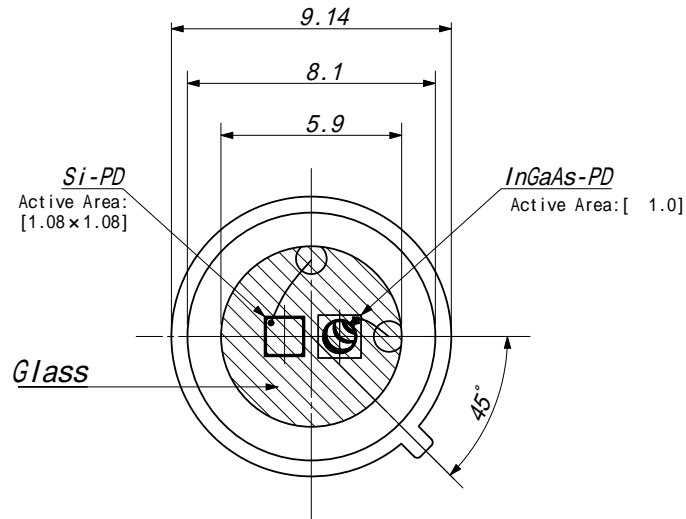
InGaAs Electrical & Optical Characteristics (Ta = 25°C)

| ITEMS | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------|-----------|-------------------|-----|------|------|------------|
| Breakdown Voltage | VR | IR=100uA | -- | -- | 1 | V |
| Sensitivity Range | λ | VR=0V | 800 | -- | 2600 | nm |
| Dark Current | ID | VR=0V | -- | 80 | -- | nA |
| Dark Current | ID | VR=1V | -- | 100 | -- | uA |
| Capacitance | C | VR=0V | -- | 3100 | -- | pF |
| Capacitance | C | VR=1V | -- | 500 | -- | pF |
| Responsivity | R | λ =2400nm | -- | 1.24 | -- | A/W |
| Shunt Resistance | RS | VR=10mV | -- | 0.5 | -- | k Ω |
| Quantum Efficiency | QE | λ =1840nm | -- | 72 | -- | % |

Si Electrical & Optical Characteristics (Ta = 25°C)

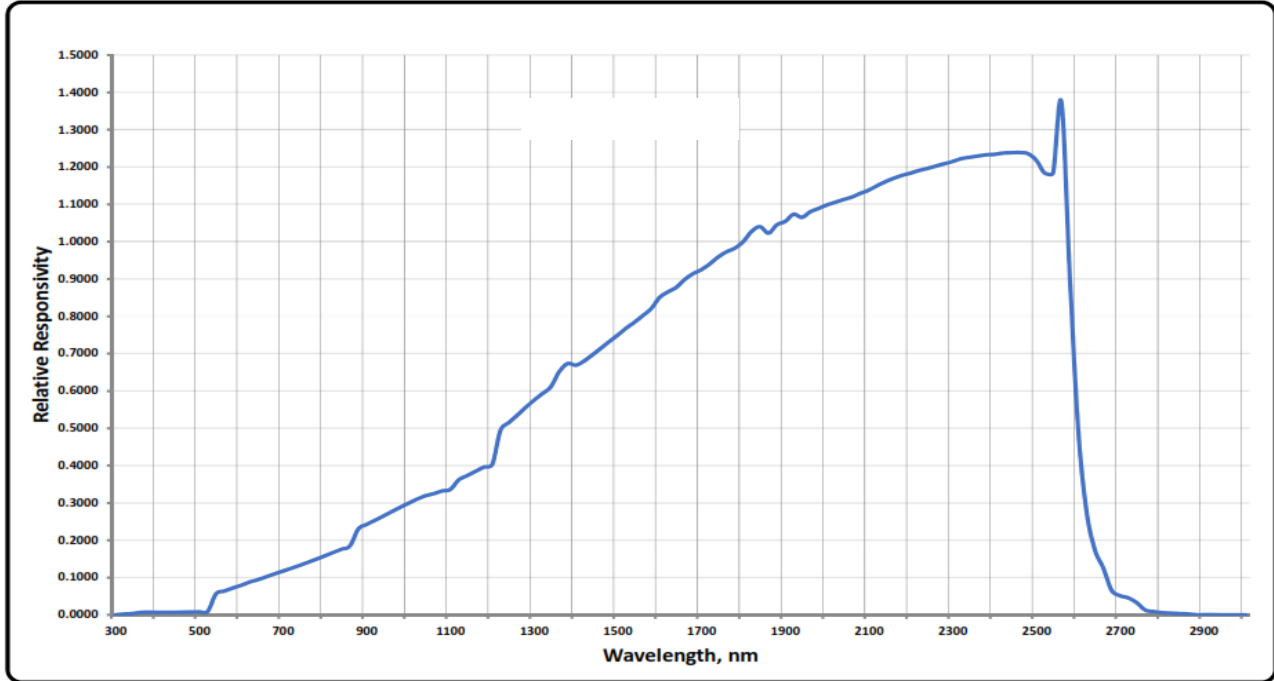
| ITEMS | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------|-------------|-------------------------------|-----|------|------|------------|
| Breakdown Voltage | VR | IR=10uA | 50 | -- | -- | V |
| Sensitivity Range | λ | | 250 | -- | 1100 | nm |
| Peak Sensitivity | λ_p | | -- | 950 | -- | nm |
| Dark Current | ID | VR=5V | -- | -- | 10 | nA |
| Capacitance | C | @1MHz, VR=0V | -- | 20 | -- | pF |
| Capacitance | C | @1MHz, VR=5V | -- | 6 | 8 | pF |
| Responsivity | R | VR=0V, $\lambda=365\text{nm}$ | -- | 0.22 | -- | A/W |
| Responsivity | R | VR=0V, $\lambda=633\text{nm}$ | -- | 0.40 | -- | A/W |
| Shunt Resistance | RS | VR=10mV | 500 | 800 | -- | M Ω |
| Response Time @ 635nm | TR | RL=50 Ω , VR=5V | -- | 20 | -- | ns |

Package Dimensions

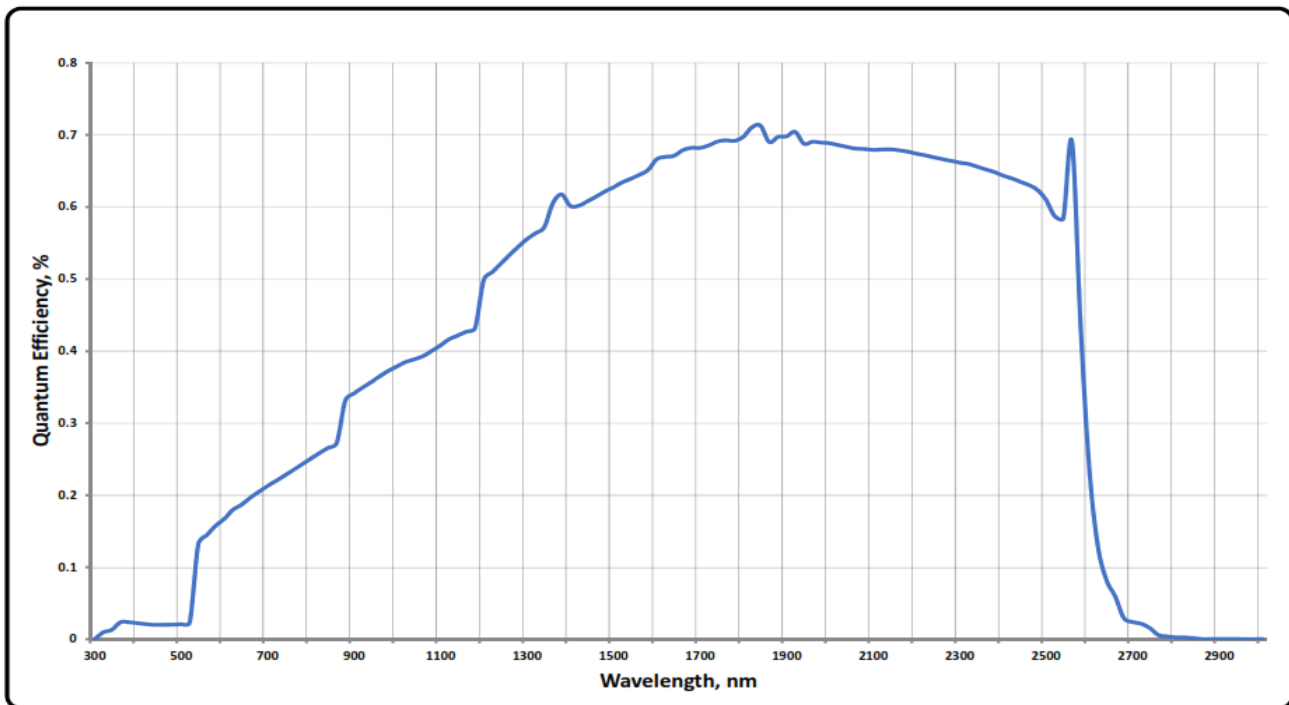


InGaAs PD Anode
Si PD Anode
Cathode com(Case)

InGaAs Spectral Responsivity



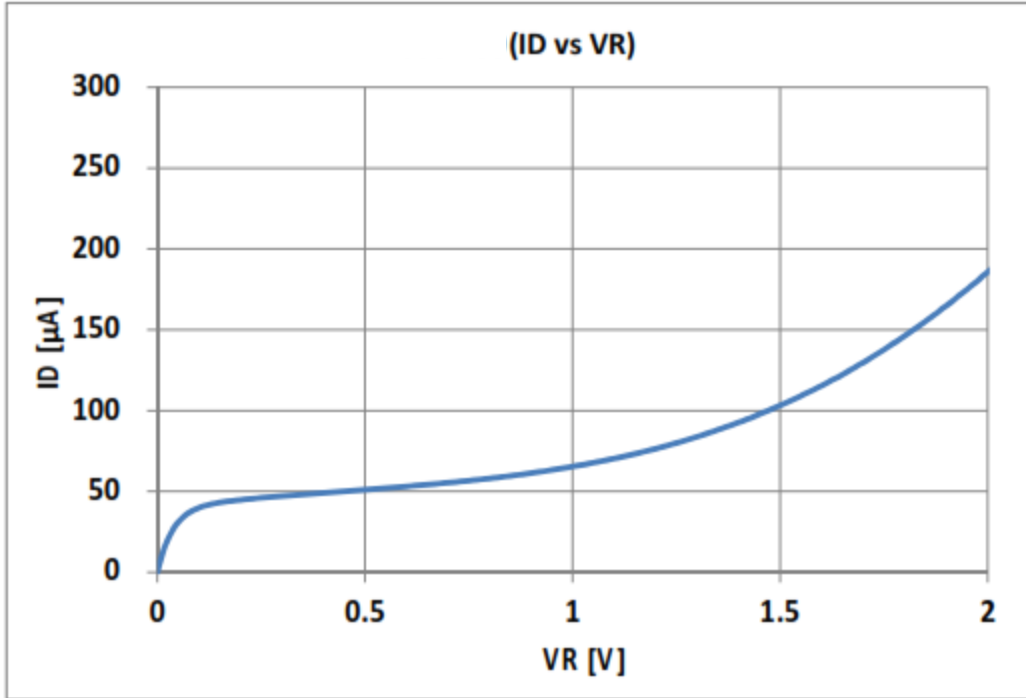
InGaAs Quantum Efficiency



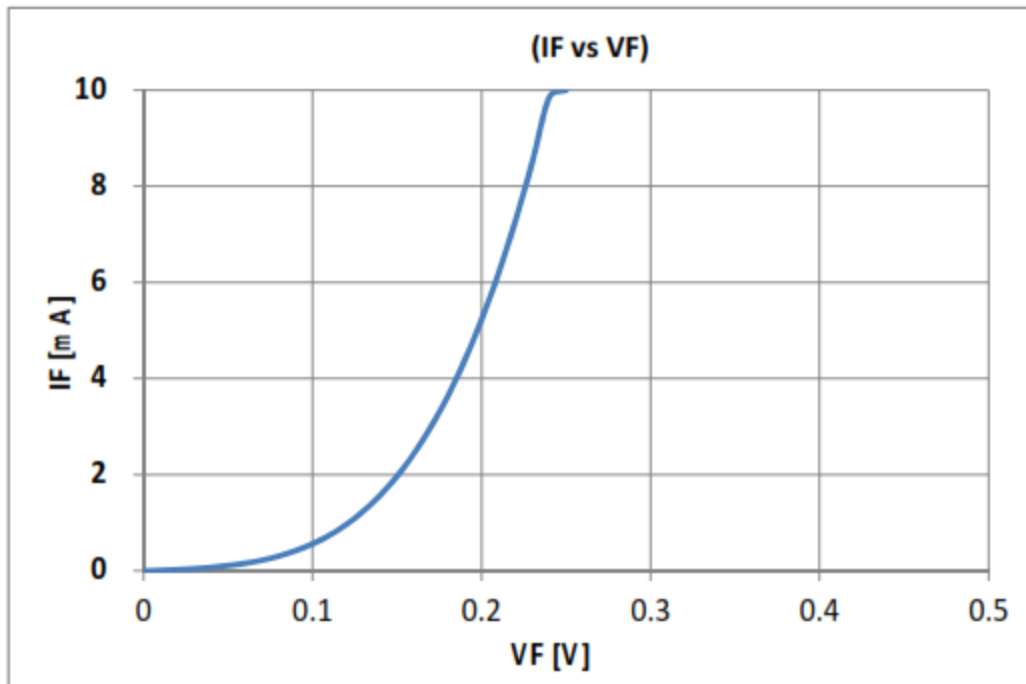
The information contained herein is subject to change without notice.

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InGaAs Dark Current vs Reverse Voltage



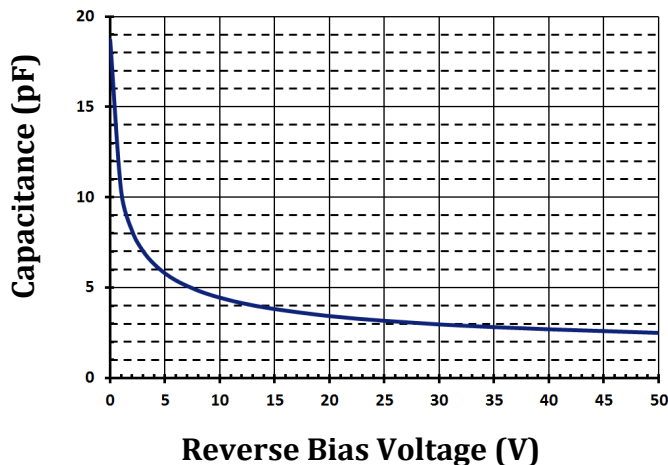
InGaAs Forward Current vs Forward Voltage



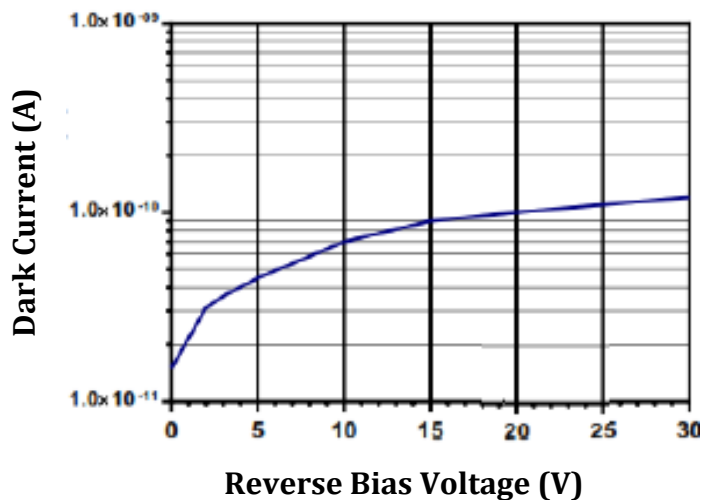
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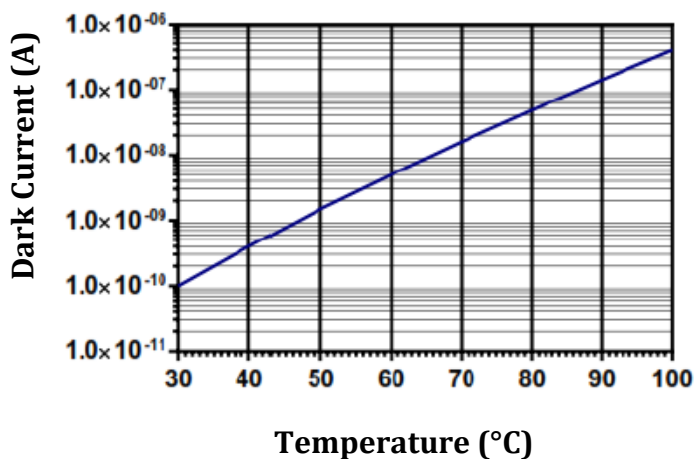
Si Capacitance vs Reverse Bias



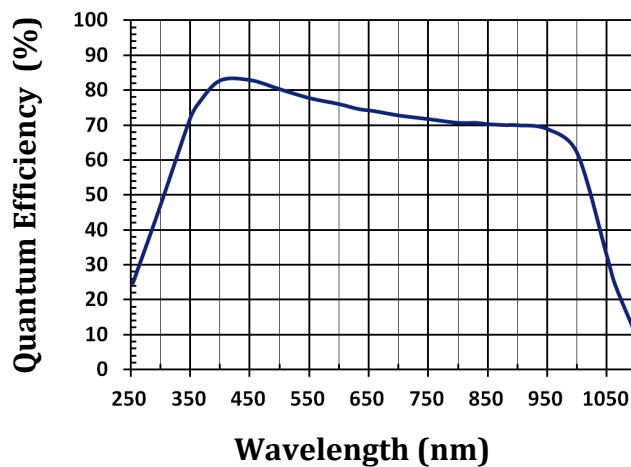
Si Dark Current vs Reverse Bias (23°C)



Si Dark Current vs Temperature (Vr=10V)



Si Quantum Efficiency (23°C)



Si Series 4 Spectral Responsivity

