



DESCRIPTION

The **SD 385-24-21-041** is a red enhanced Bi-Cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a hermetic TO-8 metal package.

FEATURES

- Low noise
- High shunt resistance
- High response

RELIABILITY

Contact Luna for recommendations on specific test conditions and procedures.

APPLICATIONS

- Emitter alignment
- Position sensing
- Medical and industrial



ABSOLUTE MAXIMUM RATINGS

| SYMBOL | MIN | | MAX | UNITS | |
|------------------------|-----|----|------|--------------------|---|
| Reverse Voltage | - | - | 50 | V | $T_a = 23^{\circ}\text{C}$ UNLESS OTHERWISE NOTED |
| Storage Temperature | -55 | to | +150 | $^{\circ}\text{C}$ | - |
| Operating Temperature | -40 | to | +125 | $^{\circ}\text{C}$ | - |
| Soldering Temperature* | - | - | +240 | $^{\circ}\text{C}$ | - |

*1/16 inch from case for 3 seconds max.

OPTO-ELECTRICAL PARAMETERS

T_a = 23°C UNLESS NOTED OTHERWISE

| PARAMETER | TEST CONDITIONS | MIN | TYP | MAX | UNITS |
|----------------------------|----------------------------------|------|-----------------------|------|-------|
| Dark Current | V _R =5V | - | 6.0 | 31.0 | nA |
| Shunt Resistance | V _R = 10 mV | 40 | - | - | MΩ |
| Junction Capacitance | V _R = 0 V, f=1 MHz | - | 390 | - | pF |
| | V _R = 10 V, f=1 MHz | - | 85 | - | |
| Spectral Application Range | Spot Scan | 350 | - | 1100 | nm |
| Responsivity | λ= 633 nm, V _R = 0V | 0.32 | 0.36 | - | A/W |
| | λ= 900 nm, V _R = 0V | 0.50 | 0.55 | - | |
| Breakdown Voltage | I = 10μA | - | 50 | - | V |
| Noise Equivalent Power | V _R = 0V @ λ = 950 nm | - | 2.9x10 ⁻¹⁴ | - | W/√Hz |
| Response Time | RL = 50Ω, V _R = 0 V | - | 190 | - | nS |
| | RL = 50Ω, V _R = 10 V | - | 13 | - | |

TYPICAL PERFORMANCE

SPECTRAL RESPONSE

