

FEATURES

- Low Noise
- Red Enhanced
- High Shunt Resistance
- High Response

DESCRIPTION

The **SD225-23-21-040** is a red enhanced quad-cell silicon photodiode used for nulling, centering, or measuring small positional changes packaged in a TO-8 metal package with an opening in the center.

APPLICATIONS

- Emitter Alignment
- Position Sensing
- Medical and Industrial

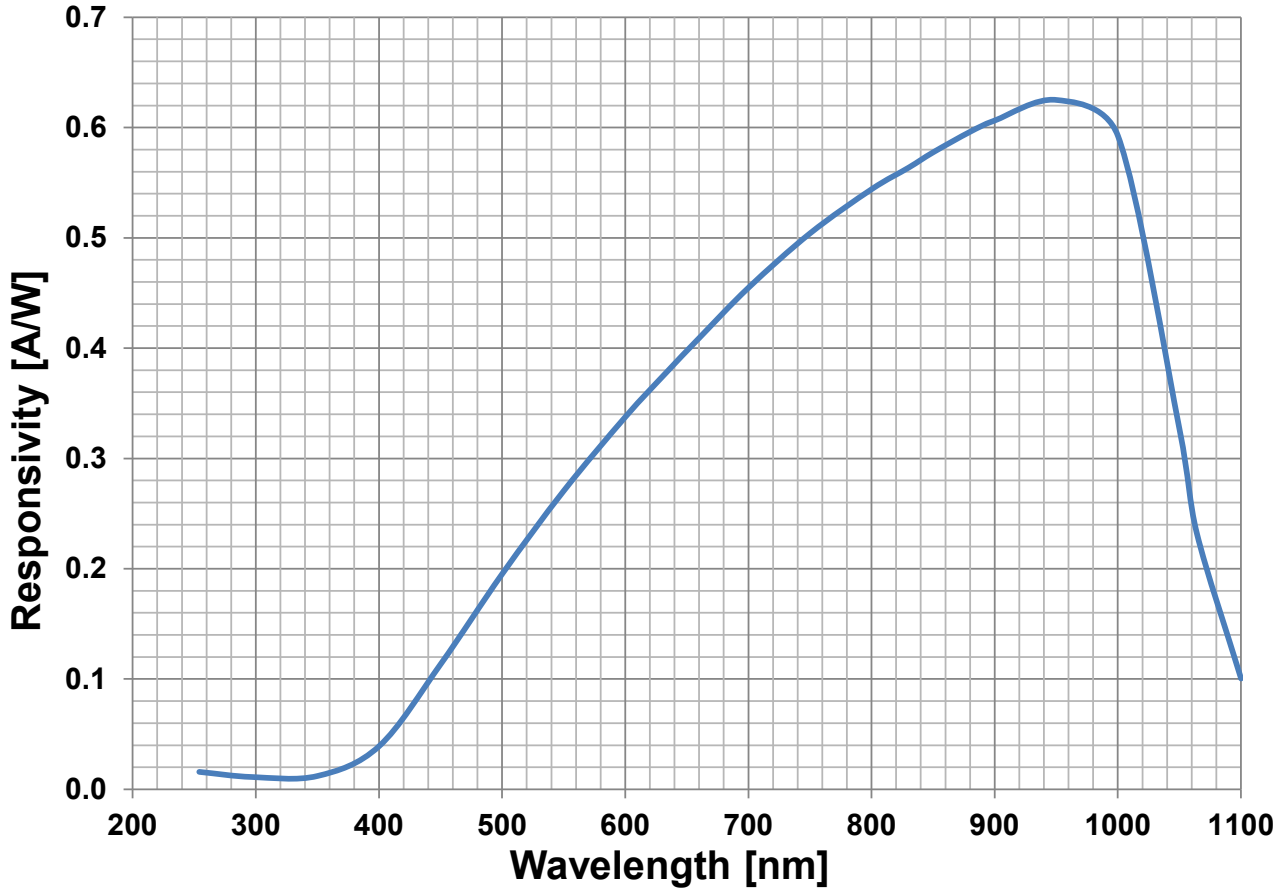
> Absolute Maximum Ratings

| Part No. | Wavelength Range [nm] | Reverse Voltage [V] | Operating Temperature [C] | Storage Temperature [C] | Package |
|-----------------|-----------------------|---------------------|---------------------------|-------------------------|---------|
| SD225-23-21-040 | 350 to 1100 | 50 | -40 to +125 | -55 to +150 | TO-8 |

> Electrical and Optical Characteristics

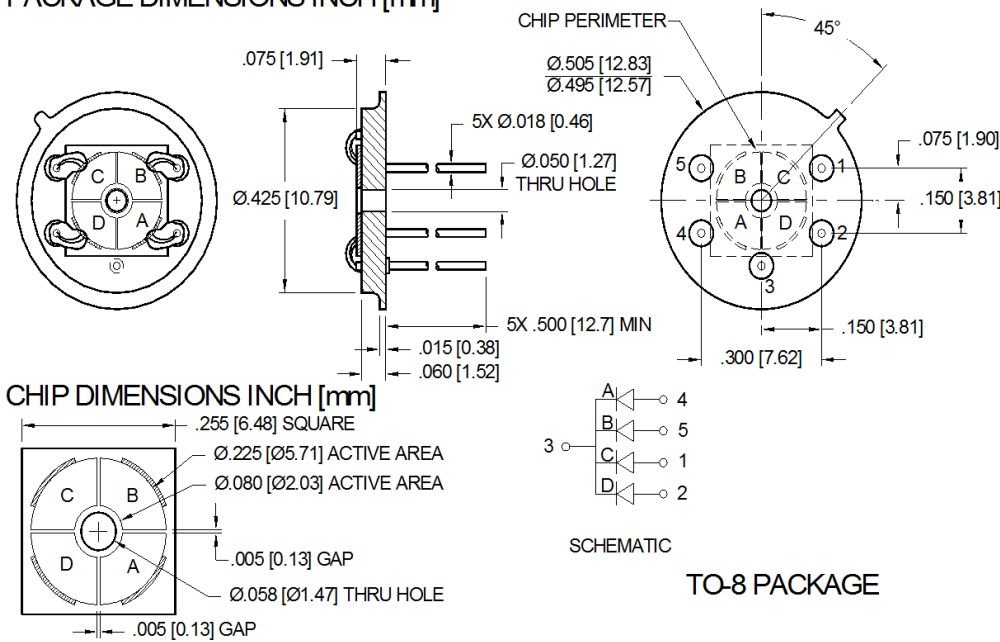
| Typical Characteristics per element (T=23°C unless specified) | | | | | | |
|---|--|----------|------|-----------------------|-----|-----------------------------|
| Parameter | Test Conditions | Symbol | Min | Typical | Max | Unit |
| Dark Current | $V_R = 5\text{ V}$ | I_D | - | 1.2 | 6.5 | nA |
| Shunt Resistance | $V_R = 10\text{ mV}$ | R_{sh} | 100 | - | - | $M\Omega$ |
| Junction Capacitance | $V_R = 0\text{V}; f = 1\text{ MHz}$ | C_J | - | 102 | - | pF |
| | $V_R = 5\text{V}; f = 1\text{ MHz}$ | | - | 24 | - | |
| Responsivity | $\lambda = 633\text{nm}, V_R = 0\text{ V}$ | R | 0.32 | 0.36 | - | A/W |
| | $\lambda = 900\text{nm}, V_R = 0\text{ V}$ | | 0.50 | 0.55 | - | |
| Breakdown Voltage | $I = 10\ \mu\text{A}$ | V_{BR} | - | 50 | - | V |
| Noise Equivalent Power | $V_R = 0\text{V} @ I = 950\text{nm}$ | NEP | - | 8.5×10^{-14} | - | $\text{W}/\sqrt{\text{Hz}}$ |
| Response Time | $R_L = 50\Omega, V_R = 0\text{V}$ | t_r | - | 70 | - | ns |
| | $R_L = 50\Omega, V_R = 10\text{V}$ | | - | 5 | - | |

> Typical Spectral Response



> Package Dimensions

PACKAGE DIMENSIONS INCH [mm]



> Soldering Conditions: 260°C 1/16 inch away from case for 3 seconds max.

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MATERIALS SAFETY

This product is free of conflict minerals and meets REACH compliance. Please see website for reports.