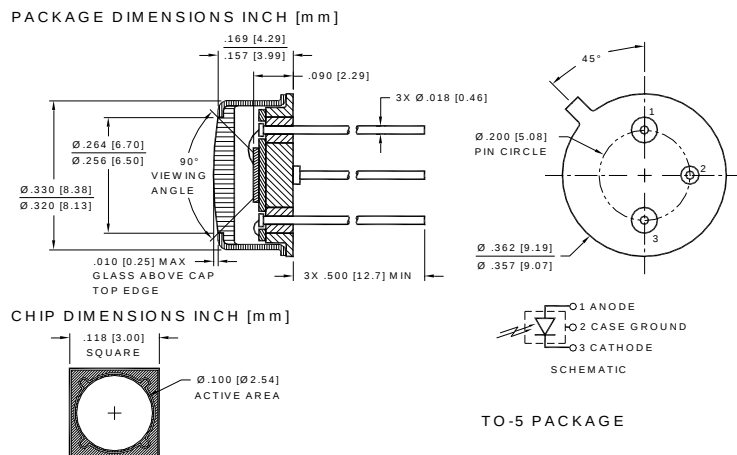




## DESCRIPTION

The **SD 100-13-23-222** is UV enhanced silicon PIN photodiode assembled in a hermetic TO-5 metal package with isolated pins.

## FEATURES

- Low Noise
- High Speed
- High shunt resistance
- High response

## RELIABILITY

This API high-reliability detector is in principle able to meet military test requirements (Mil-STD-750, Mil-STD-883) after proper screening and group test. Contact API for recommendations on specific test conditions and procedures.

## APPLICATIONS

- Instrumentation
- Medical
- Industrial

## ABSOLUTE MAXIMUM RATINGS

| PARAMETER             | MIN | MAX  | UNITS |
|-----------------------|-----|------|-------|
| Reverse Voltage       | -   | 50   | V     |
| Operating Temperature | -40 | +125 | °C    |
| Storage Temperature   | -55 | +150 | °C    |
| Soldering Temperature | -   | +260 | °C    |

$T_a = 23^\circ\text{C}$   
non condensing

see recommended reflow profile

**OPTO-ELECTRICAL PARAMETERS**

$T_a = 23^\circ\text{C}$  unless noted otherwise

| CHARACTERISTIC             | TEST CONDITIONS                               | MIN  | TYP                 | MAX  | UNITS               |
|----------------------------|-----------------------------------------------|------|---------------------|------|---------------------|
| Dark Current               | $V_R = 5\text{ V}$                            | -    | 1                   | 6.5  | nA                  |
| Shunt Resistance           | $V_R = 10\text{ mV}$                          | 200  | 300                 | -    | $\text{M}\Omega$    |
| Junction Capacitance       | $V_R = 0\text{ V}, f = 1\text{ MHz}$          | -    | 90                  | -    | pF                  |
| Junction Capacitance       | $V_R = 50\text{ V}, f = 1\text{ MHz}$         | -    | 9                   | -    | pF                  |
| Spectral Application Range | Spot Scan                                     | 250  | -                   | 1100 | nm                  |
| Responsivity               | $\lambda = 365\text{ nm V}, V_R = 0\text{ V}$ | 0.10 | 0.18                | -    | A/W                 |
| Breakdown Voltage          | $I = 10\text{ }\mu\text{A}$                   | 30   | 50                  | -    | V                   |
| Noise Equivalent Power     | $V_R = 0\text{ V @ } I = \text{Peak}$         | -    | $3 \times 10^{-14}$ | -    | $\text{W/Hz}^{1/2}$ |
| Response Time              | $R_L = 50\text{ }\Omega, V_R = 0\text{ V}$    | -    | 190                 | -    | nS                  |
|                            | $R_L = 50\text{ }\Omega, V_R = 10\text{ V}$   | -    | 13                  | -    |                     |

**TYPICAL PERFORMANCE**

**SPECTRAL RESPONSE**

