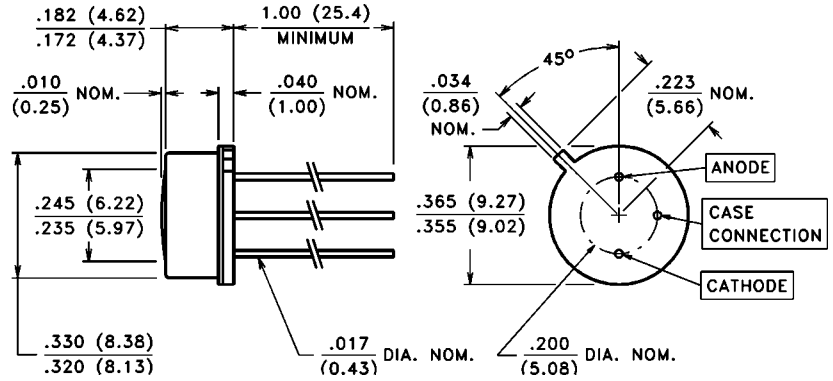


## PACKAGE DIMENSIONS inch (mm)



CASE 14A TO-5 HERMETIC  
CHIP ACTIVE AREA: .023 in<sup>2</sup> (14.8 mm<sup>2</sup>)

## PRODUCT DESCRIPTION

Planar silicon photodiode in a three lead TO-5 package with a UV transmitting "flat" window. Chip is isolated from the case. The third lead allows case to be grounded. These diodes have very high shunt resistance and have good blue response.

## ABSOLUTE MAXIMUM RATINGS

Storage Temperature: -40°C to 110°C  
Operating Temperature: -40°C to 110°C

**RoHS Compliant**



## ELECTRO-OPTICAL CHARACTERISTICS @ 25°C (See also VTB curves, pages 21-22)

| SYMBOL             | CHARACTERISTIC                          | TEST CONDITIONS    | VTB5051UVJH |                                |      | UNITS   |
|--------------------|---|--------------------|-------------|--------------------------------|------|---------|
|                    |   |                    | Min.        | Typ.                           | Max. |         |
| I <sub>SC</sub>    | Short Circuit Current                   | H = 100 fc, 2850 K | 85          | 130                            |      | μA      |
| TC I <sub>SC</sub> | I <sub>SC</sub> Temperature Coefficient | 2850 K             |             | .12                            | .23  | %/°C    |
| V <sub>OC</sub>    | Open Circuit Voltage                    | H = 100 fc, 2850 K |             | 490                            |      | mV      |
| TC V <sub>OC</sub> | V <sub>OC</sub> Temperature Coefficient | 2850 K             |             | -2.0                           |      | mV/°C   |
| I <sub>D</sub>     | Dark Current                            | H = 0, VR = 2.0 V  |             |                                | 250  | pA      |
| R <sub>SH</sub>    | Shunt Resistance                        | H = 0, V = -10 mV  |             | .56                            |      | GΩ      |
| TC R <sub>SH</sub> | R <sub>SH</sub> Temperature Coefficient | H = 0, V = -10 mV  |             | -8.0                           |      | %/°C    |
| C <sub>J</sub>     | Junction Capacitance                    | H = 0, V = 0       |             | 3.0                            |      | nF      |
| S <sub>R</sub>     | Sensitivity                             | 365 nm             |             | 0.1                            |      | A/W     |
| S <sub>R</sub>     | Sensitivity                             | 220 nm             | .038        |                                |      | A/W     |
| λ <sub>range</sub> | Spectral Application Range              |                    | 200         |                                | 1100 | nm      |
| λ <sub>p</sub>     | Spectral Response - Peak                |                    |             | 920                            |      | nm      |
| V <sub>BR</sub>    | Breakdown Voltage                       |                    | 2           | 40                             |      | V       |
| θ <sub>1/2</sub>   | Angular Resp. - 50% Resp. Pt.           |                    |             | ±50                            |      | Degrees |
| NEP                | Noise Equivalent Power                  |                    |             | 2.1 x 10 <sup>-14</sup> (Typ.) |      | W/√Hz   |
| D*                 | Specific Detectivity                    |                    |             | 1.8 x 10 <sup>13</sup> (Typ.)  |      | cm√Hz/W |