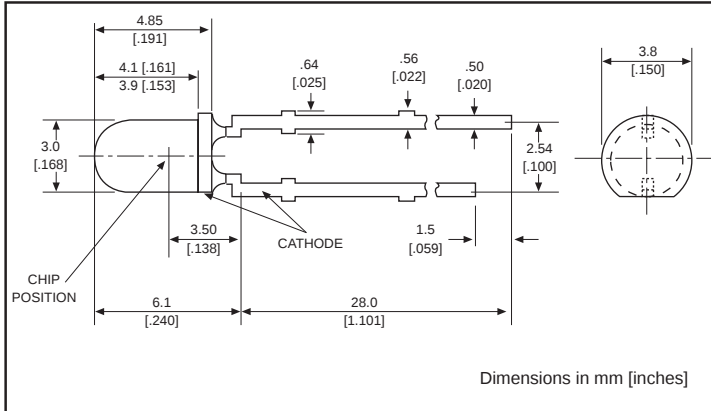




# 3mm Infrared Discrete LED Silicon PIN Photo Diode

# Dialight

## 521-9741



## Features

- Short Switching Time
- High Spectral Sensitivity
- Daylight Filtered for Near Infrared Range
- Low Capacitance
- High Reliability With No Testable Degradation

## ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ )

|                                                                              |               |
|------------------------------------------------------------------------------|---------------|
| Operating and Storage Temperature Range ( $T_{OR}$ $T_{STG}$ )               | -55 to +100°C |
| Soldering Temperature ( $\geq 2$ mm from case bottom) ( $T_s$ ) $t \leq 3$ s | 230°C         |
| Reverse Voltage ( $V_R$ )                                                    | 20V           |
| Total Power Dissipation ( $P_{TOT}$ ) $T_A=25^\circ\text{C}$                 | 150 mW        |

## OPERATING CHARACTERISTICS ( $T_A=25^\circ\text{C}$ )

| Parameter                                                                          | Symbol           | Value             | Unit            |
|------------------------------------------------------------------------------------|------------------|-------------------|-----------------|
| Spectral Sensitivity ( $V_R=5V$ ) ( $E_e=1$ mW/cm <sup>2</sup> , $\lambda=950$ nm) | S                | 10.8 min, 20 typ  | $\mu\text{A}$   |
| Wavelength, Max. Sensitivity                                                       | $\lambda_{Smax}$ | 900 typ           | nm              |
| Photosensitivity, Spectral Range ( $S = 10\%$ , $S_{max}$ )                        | $\lambda$        | 730 min, 1100 max | nm              |
| Radiant Sensitive Area                                                             | A                | .3                | mm <sup>2</sup> |
| Full Angle                                                                         | $2\theta_{1/2}$  | 34° typ           | Deg             |
| Dark Current ( $V_R=10V$ )                                                         | $I_R$            | 50 typ, 5000 max  | pA              |
| Open Circuit Voltage ( $E_e=0.5$ mW/cm <sup>2</sup> , $\lambda=950$ nm)            | $V_0$            | 370 min, 420 typ  | $\mu\text{V}$   |
| Short Circuit Current ( $E_e=0.5$ mW/cm <sup>2</sup> , $\lambda=950$ nm)           | $I_{SC}$         | 9                 | $\mu\text{A}$   |
| Temperature Coefficient ( $I_K$ , 950 nm)                                          | $TC_I$           | .03               | %/K             |
| Capacitance, $C_o$ ( $V_R = 0$ , $F = 1\text{MHz}$ , $E_E = 0$ )                   |                  | 13 typ            | pF              |
| Forward Voltage $V_F = (I_F = 100\text{mA}, E_E = 0)$                              |                  | 1.3 typ           | V               |

Solder Adherence per MIL-STD-202E, Method 208C