

# Silicon Photodiode

Optoelectronic Products

# TIL100

## General Description

The TIL100 is a high-speed PIN photodiode operating in a reverse-bias mode. It is spectrally matched with the TIL38 emitter. This photodiode was designed for infrared remote-control system.

## Low Capacitance

High Photosensitivity With Fast Response

## Absolute Maximum Ratings

### Maximum Temperature

Operating Temperature  $-25^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$

Storage Temperature  $-25^{\circ}\text{C}$  to  $+100^{\circ}\text{C}$

Pin Temperature (Soldering, 3 s)  $260^{\circ}\text{C}$

### Maximum Power Dissipation

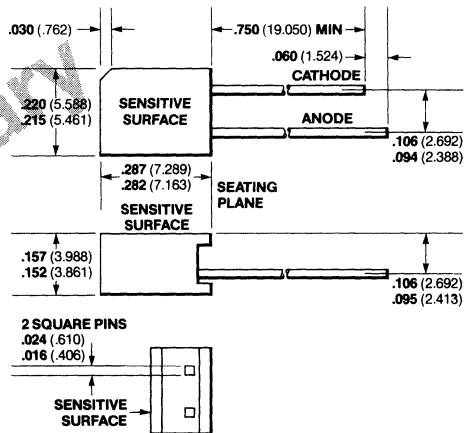
Total Dissipation at  $T_A = 25^{\circ}\text{C}$  150 mW

Derate Linearly at  $25^{\circ}\text{C}$  2 mW/ $^{\circ}\text{C}$

### Maximum Voltage

BV Breakdown Voltage 30 V

## Package Outline



### Notes

All dimensions in inches bold and millimeters (parentheses)  
Tolerance unless specified =  $\pm .015$  ( $\pm .381$ )

## Electrical Characteristics $T_A = 25^{\circ}\text{C}$

Symbol	Characteristic	Min	Typ	Max	Units	Test Conditions
$C_T$	Total Capacitance		35	50	pF	$V_R = 3\text{ V}$ , $H = 0$ , $f = 1\text{ MHz}$
$t_r$	Rise Time			100	ns	$V_R = 10\text{ V}$ , $R_L = 1\text{ k}\Omega$
$t_f$	Fall Time			100	ns	$V_R = 10\text{ V}$ , $R_L = 1\text{ k}\Omega$
$I_L$	Light Current		10		$\mu\text{A}$	$V_R = 10\text{ V}$ , $H = 250\text{ W/cm}^2$ at 940 nm
$I_D$	Dark Current			50	nA	$V_R = 10\text{ V}$ , $H = 0$