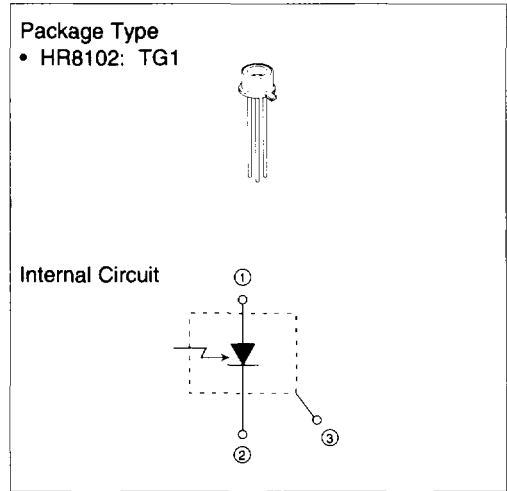


## Description

The HR8102 is a Si PIN photodiode which responds to a 0.6 to 0.9  $\mu\text{m}$  band. Its fast pulse response time makes it suitable as an optical detector for high capacity optical communication systems.

## Features

- High sensitivity, wide bandwidth
- High speed pulse response:  $t_r, t_f = 1 \text{ ns}$ , typ.
- 5V of low voltage operation possible
- Effective reception area:  $300\mu\text{m}$  dia.



## Absolute Maximum Ratings ( $T_C = 25^\circ\text{C}$ )

Item	Symbol	Rated Value	Units
Reverse voltage	$V_R$	100	V
Forward current	$I_F$	100	mA
Operating temperature	$T_{opr}$	-40 to +80	$^\circ\text{C}$
Storage temperature	$T_{stg}$	-45 to +100	$^\circ\text{C}$

## Optical and Electrical Characteristics ( $T_C = 25^\circ\text{C}$ )

Item	Symbol	Min	Typ	Max	Units	Test Conditions
Dark current	$I_{DARK}$	—	0.5	3	nA	$V_R = 10 \text{ V}$
Capacitance	$C_t$	—	1.5	3	pF	$V_R = 10 \text{ V}, f = 1 \text{ MHz}$
Sensitivity	S	0.4	—	—	mA/mW	$V_R = 10 \text{ V}, \lambda_p = 830 \text{ nm}$
Rise time	$t_r$	—	1.0	—	ns	$V_R = 10 \text{ V}, \lambda_p = 830 \text{ nm}$ $R_L = 50 \Omega$
Fall time	$t_f$	—	1.0	—	ns	$V_R = 10 \text{ V}, \lambda_p = 830 \text{ nm}$ $R_L = 50 \Omega$

Typical Characteristic Curves

