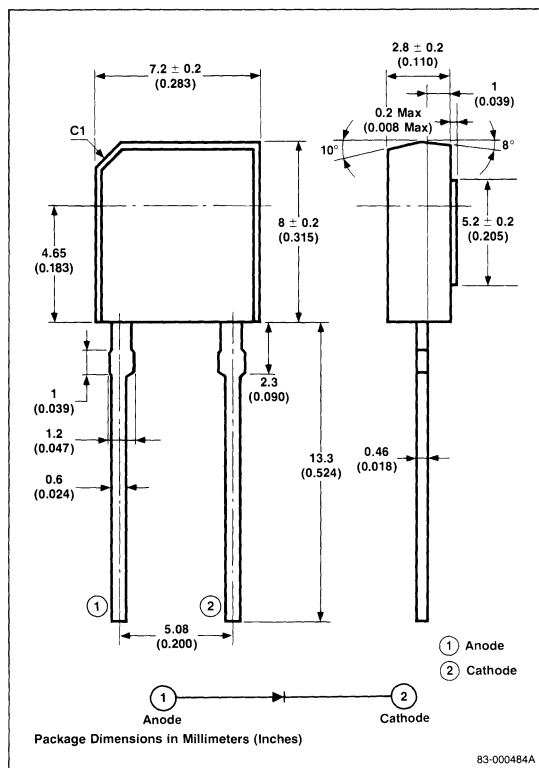


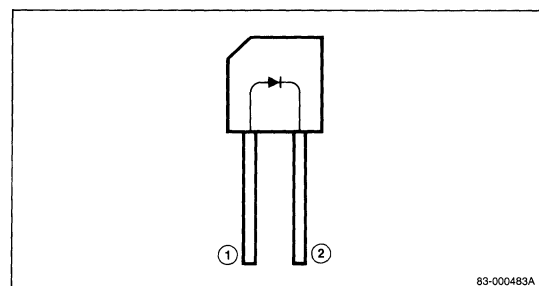
## Description

The PH305 is a photo diode with PIN structure. It is very suitable for a light detector with a 7-10m remote controller or a 0.3-5m opto-interrupter. The resin material used for the package has the filter effect of transmitting only infrared radiation.

## Package Dimensions



## Pin Connection



## Features

- ☐ Ultrahigh-speed response ( $t_r, t_f = 30\text{ns}$ )
- ☐ The wavelength of maximum sensitivity matches that of an infrared LED ( $\lambda_{S-MAX} = 940\text{nm}$ )
- ☐ High sensitivity (32nA/lx)
- ☐ Wide dynamic range

## Absolute Maximum Ratings

$T_A = +25^\circ\text{C}$

|                                |                |
|--------------------------------|----------------|
| Reverse Voltage, $V_R$         | 20V            |
| Power Dissipation, $P_D$       | 150mW          |
| Junction Temperature, $T_J$    | 80°C           |
| Storage Temperature, $T_{STG}$ | -40°C to +80°C |

## Electrical Characteristics

$T_A = +25^\circ\text{C}$

| Parameters                                                                                | Symbol            | Limits |      |     | Test Conditions                                                     |
|-------------------------------------------------------------------------------------------|-------------------|--------|------|-----|---------------------------------------------------------------------|
|                                                                                           |                   | Min    | Typ  | Max |                                                                     |
| Dark Current                                                                              | $I_R$             |        |      | 30  | nA $V_R = 10\text{V}$                                               |
| Wavelength of Maximum Sensitivity                                                         | $\lambda_{S-MAX}$ |        | 940  |     | nm                                                                  |
| Quantum Efficiency                                                                        | $\eta$            |        | 0.88 |     | $\lambda = 940\text{nm}$                                            |
| Spectral Sensitivity                                                                      | S                 | 23     | 32   |     | nA/lx $V_R = 5\text{V}$                                             |
| Spectral Sensitivity                                                                      | S                 |        | 0.6  |     | A/W $\lambda = 940\text{nm}$                                        |
| Rise and Fall Time of the Photo Current from 10% to 90% and 90% to 10% of the Fianl value | $t_r, t_f$        |        | 125  |     | ns $R_L = 1\text{k}\Omega, V_R = 0\text{V}, \lambda = 940\text{nm}$ |
|                                                                                           | $t_r, t_f$        |        | 50   |     | ns $R_L = 1\text{k}\Omega, V_R = 5\text{V}, \lambda = 940\text{nm}$ |
| Capacitance                                                                               | $C_T$             |        | 11   |     | pF $V_R = 5\text{V}, f = 1\text{MHz}$                               |
| Radiant Sensitive Area                                                                    | A                 |        | 5.3  |     | mm <sup>2</sup>                                                     |

**Typical Characteristics**

$T_A = +25^\circ\text{C}$

