

PN150

Silicon NPN Phototransistor

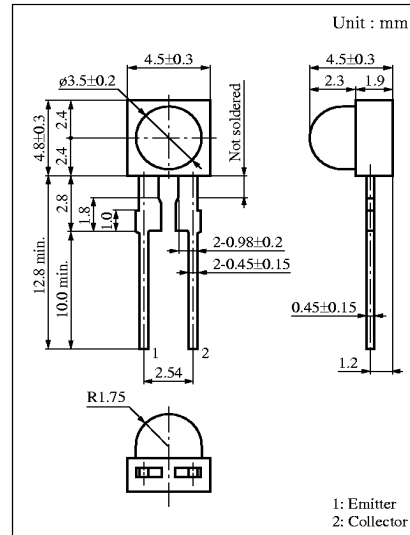
For optical control systems

■ Features

- High sensitivity
- Wide spectral responsivity, suited for detecting GaAs LEDs
- Low dark current
- Side-view type package

■ Absolute Maximum Ratings (Ta = 25°C)

| Parameter | Symbol | Rated | Unit |
|-------------------------------|-----------|-------------|------|
| Collector to emitter voltage | V_{CEO} | 20 | V |
| Collector current | I_C | 20 | mA |
| Collector power dissipation | P_C | 100 | mW |
| Operating ambient temperature | T_{opr} | -25 to +85 | °C |
| Storage temperature | T_{stg} | -30 to +100 | °C |



■ Electro-Optical Characteristics (Ta = 25°C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|------------------------------|-----------------|--|-----|------|-----|---------|
| Dark current | I_{CEO} | $V_{CE} = 10V$ | | 0.01 | 1 | μA |
| Collector photo current | $I_{CE(L)}$ | $V_{CE} = 10V, L = 500 lx^{*1}$ | 1 | 3 | | mA |
| Peak sensitivity wavelength | λ_P | $V_{CE} = 10V$ | | 800 | | nm |
| Acceptance half angle | θ | Measured from the optical axis to the half power point | | 35 | | deg. |
| Response time | t_r, t_f^{*2} | $V_{CC} = 10V, I_{CE(L)} = 5mA, R_L = 100\Omega$ | | 4 | 10 | μs |
| Collector saturation voltage | $V_{CE(sat)}$ | $I_{CE(L)} = 1mA, L = 1000 lx^{*1}$ | | 0.2 | 0.5 | V |

*1 Measurements were made using a tungsten lamp (color temperature T = 2856K) as a light source.

*2 Switching time measurement circuit

