

●Applications

- Printers
- Optical Control Equipment
- Amusement

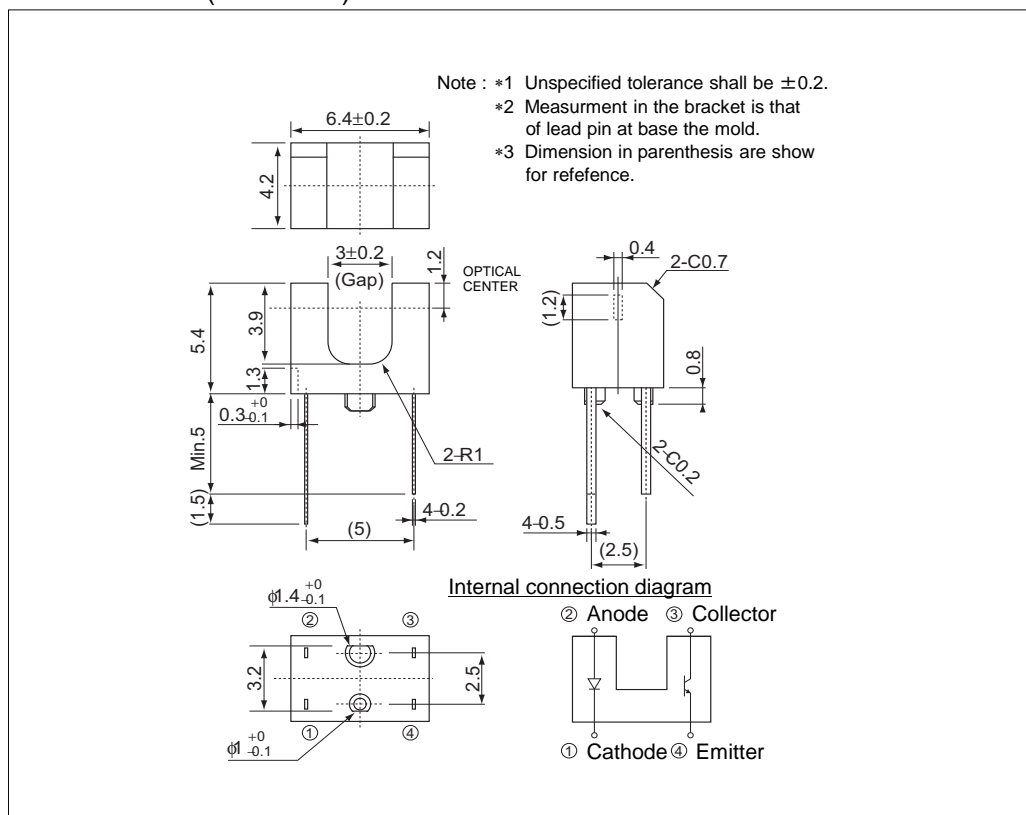
●Features

- 1) Positioning pin results in high mounting accuracy
- 2) Gap 3.0mm

●Outline



●Dimensions (Unit : mm)



●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

| Parameter | | Symbol | Value | Unit |
|--|---------------------------|-----------|------------|------------------|
| Input (Infrared light emitting diode) | Forward current | I_F | 35 | mA |
| | Reverse voltage | V_R | 5 | V |
| | Power dissipation | P_D | 70 | mW |
| Output (Phototransistor) | Collector-emitter voltage | V_{CEO} | 30 | V |
| | Emitter-collector voltage | V_{ECO} | 4.5 | V |
| | Collector current | I_C | 30 | mA |
| | Collector dissipation | P_C | 80 | mW |
| Operating temperature | | T_{opr} | -30 to +85 | $^\circ\text{C}$ |
| Storage temperature | | T_{stg} | -40 to +85 | $^\circ\text{C}$ |

● **Electrical and optical characteristics** ($T_a = 25^\circ\text{C}$)

1) Input characteristics

| Parameter | Symbol | Conditions | Values | | | Unit |
|--------------------------------|-------------|---------------------|--------|------|------|---------------|
| | | | Min. | Typ. | Max. | |
| Forward voltage | V_F | $I_F = 10\text{mA}$ | 1.2 | 1.4 | 1.6 | V |
| Reverse current | I_R | $V_R = 5\text{V}$ | - | - | 10 | μA |
| Peak light emitting wavelength | λ_p | $I_F = 10\text{mA}$ | - | 850 | - | nm |

* Non-coherent Infrared light emitting diode used.

2) Output characteristics

| Parameter | Symbol | Conditions | Values | | | Unit |
|-----------------------------|-------------|-----------------------|--------|------|------|---------------|
| | | | Min. | Typ. | Max. | |
| Dark current | I_{CEO} | $V_{CE} = 10\text{V}$ | - | - | 0.5 | μA |
| Peak sensitivity wavelength | λ_p | | - | 800 | - | nm |

* This product is not designed to be protected against electromagnetic wave.

3) Transfer characteristics

| Parameter | Symbol | Conditions | Values | | | Unit | |
|--------------------------------------|----------------------|---|---|-------------------|------|------|---------------|
| | | | Min. | Typ. | Max. | | |
| Collector current | I_C | $V_{CE} = 5\text{V}$ $I_F = 10\text{mA}$ | 0.18 | 0.9 | - | mA | |
| Collector-emitter saturation voltage | $V_{CE(\text{sat})}$ | $I_F = 10\text{mA}$ $I_C = 0.1\text{mA}$ | - | - | 0.4 | V | |
| Response time | Rise time | t_r | $V_{CC} = 5\text{V}, I_F = 10\text{mA}$ | - | 10 | - | μs |
| | Fall time | t_f | | $R_L = 100\Omega$ | - | 10 | |

●Electrical and optical characteristics curves

Fig.1 Relative Output Current vs.Distance (I)

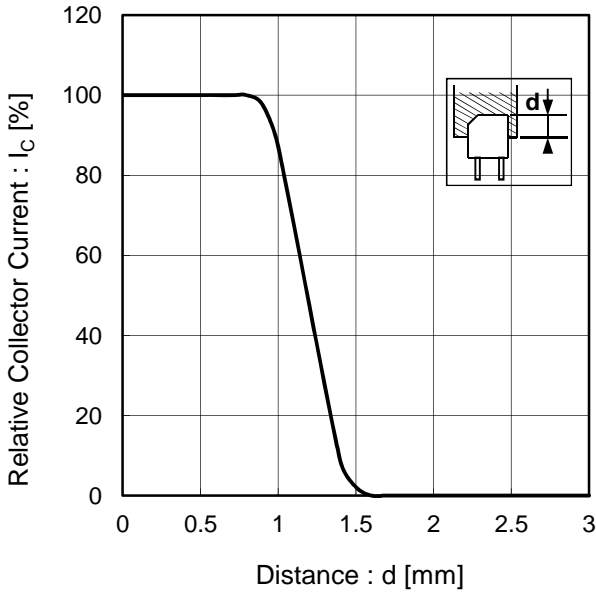


Fig.2 Relative Output Current vs.Distance (II)

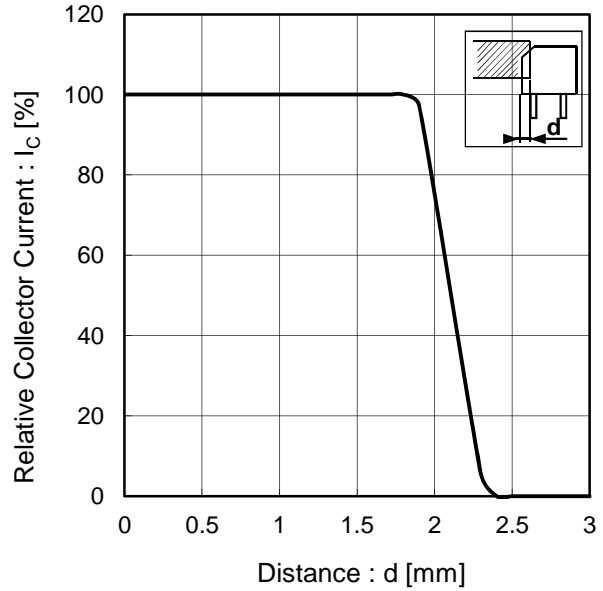


Fig.3 Forward Current Falloff

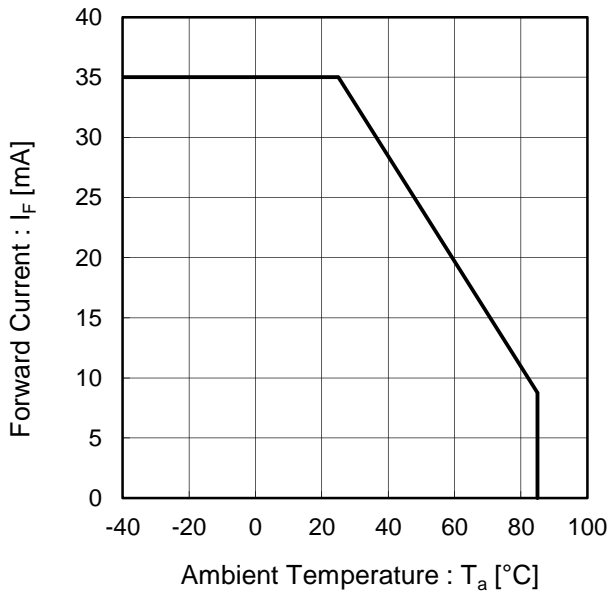
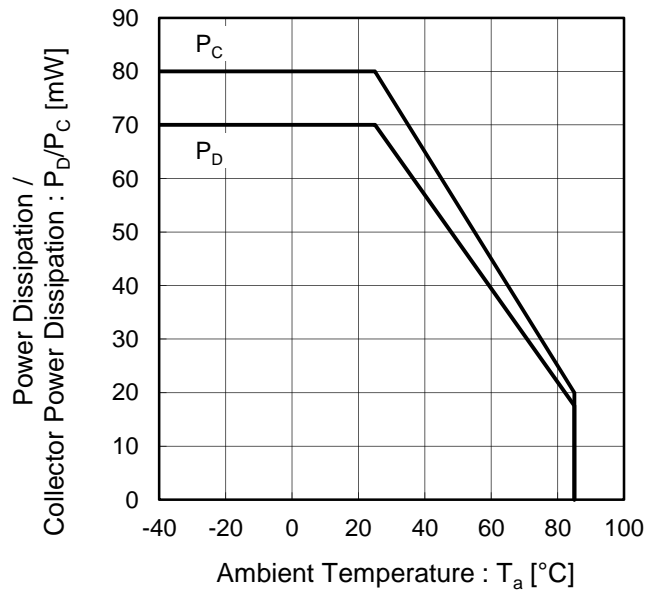


Fig.4 Power Dissipation / Collector Power Dissipation vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Forward Current vs. Forward Voltage

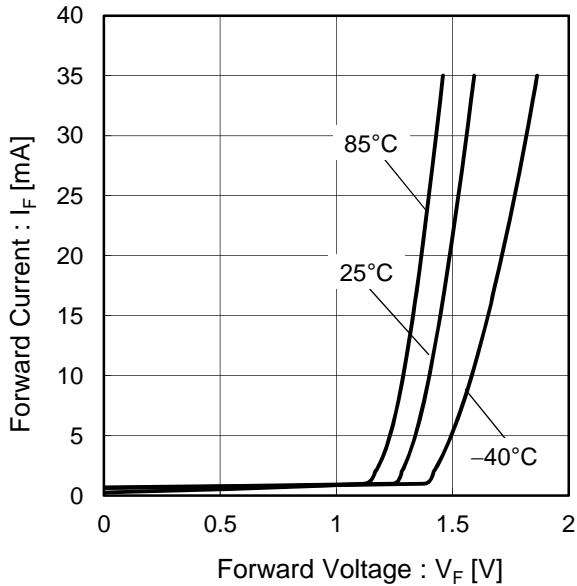


Fig.6 Collector Current vs. Forward Current

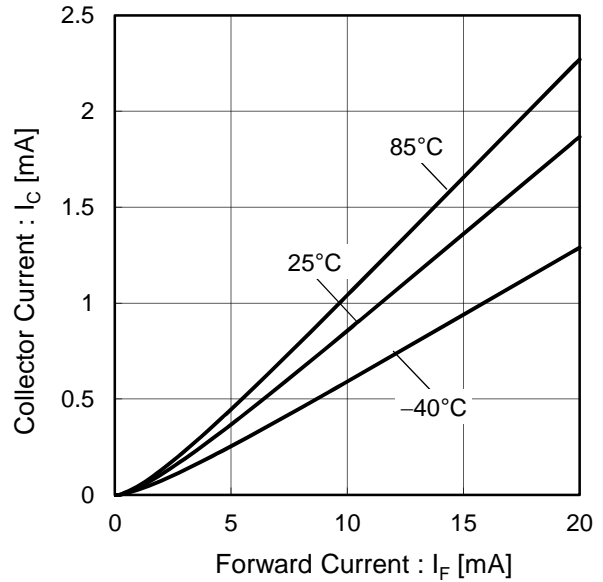


Fig.7 Relative Output vs. Ambient Temperature

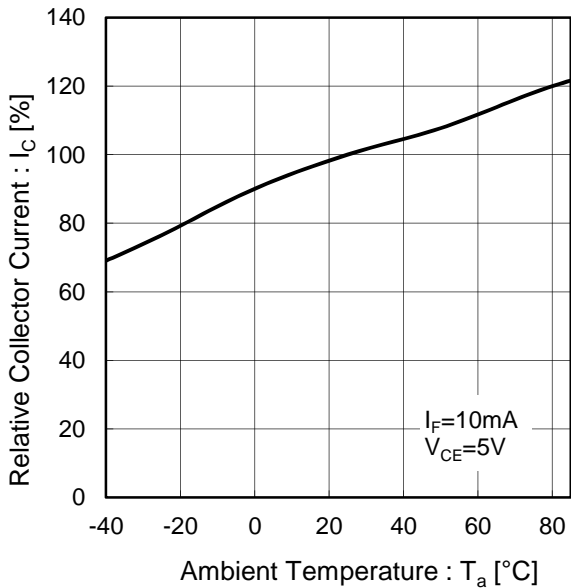
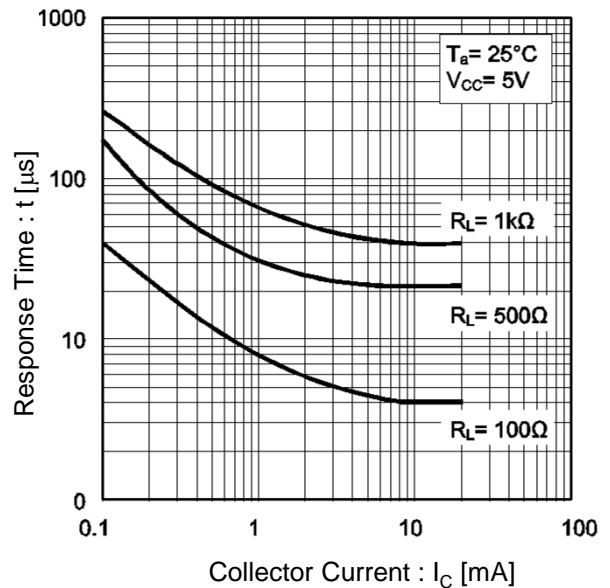


Fig.8 Response Time vs. Collector Current



●Electrical and optical characteristics curves

Fig.9 Dark Current vs. Ambient Temperature

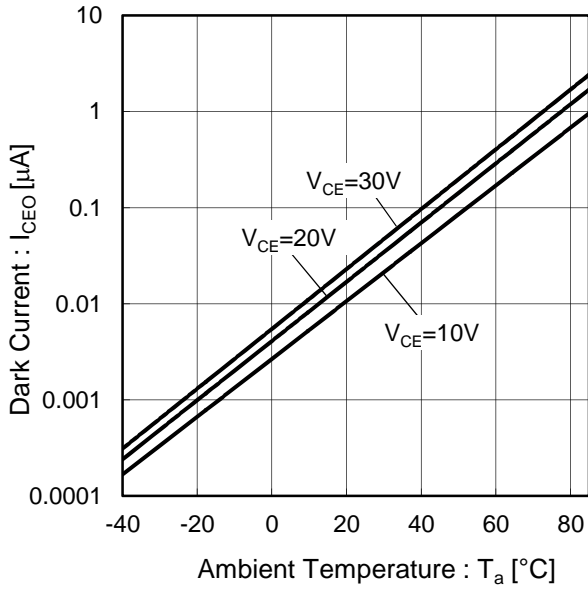
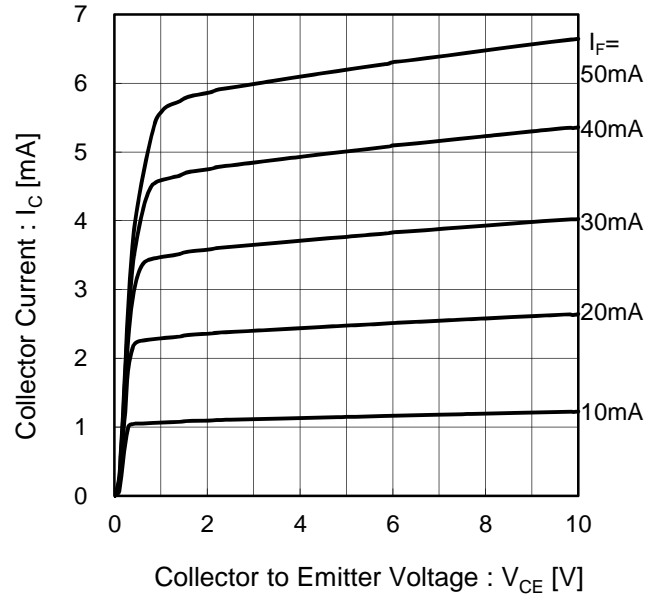


Fig.10 Output Characteristics



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