

●Applications

- Printers
- Optical Control Equipment
- Amusement

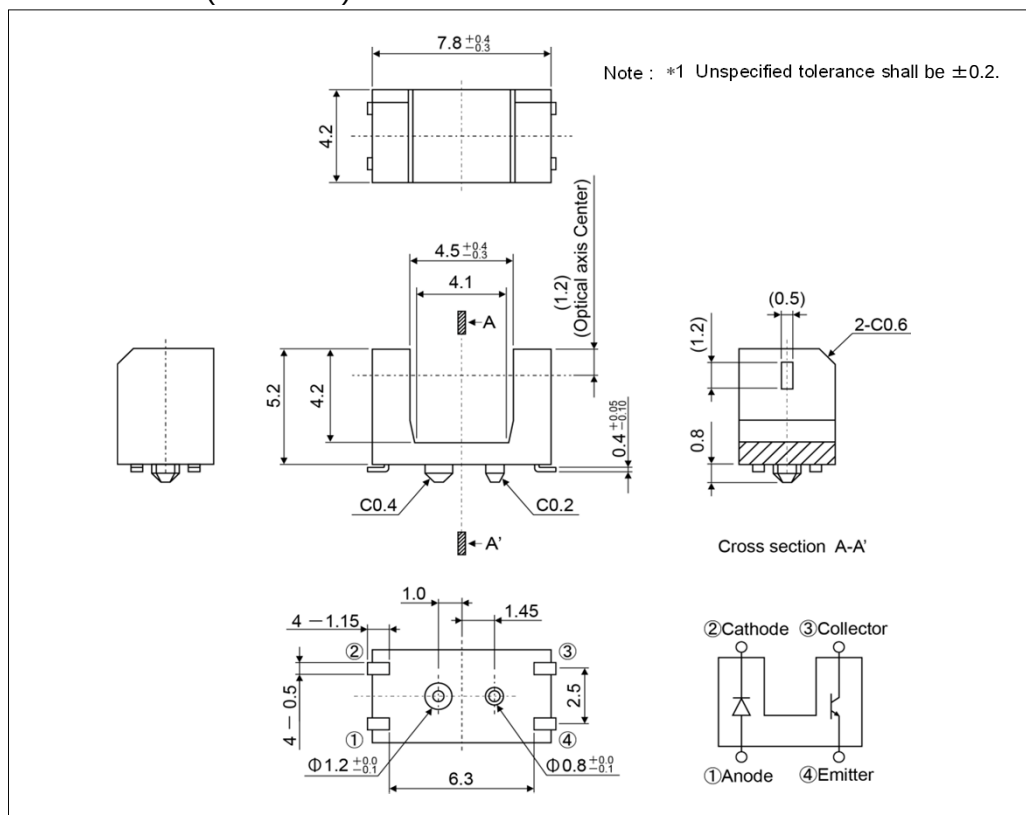
●Features

- 1) Positioning pin results in high mounting accuracy
- 2) Wide Gap 4.5mm

●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}	-25 to +85	$^\circ\text{C}$
Storage temperature		T_{stg}	-30 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	$I_F = 10\text{mA}$	-	1.4	1.7	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	$V_{CE} = 5\text{V}$ $I_F = 10\text{mA}$	0.16	0.45	-	mA
Collector-emitter saturation voltage		$V_{CE(sat)}$	$I_F = 10\text{mA}$ $I_C = 0.1\text{mA}$	-	-	0.4	V
Response time	Rise time	t_r	$V_{CC} = 5\text{V}, I_F = 10\text{mA}$ $R_L = 100\Omega$	-	10	-	μs
	Fall time	t_f		-	10	-	

●Electrical and optical characteristics curves

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

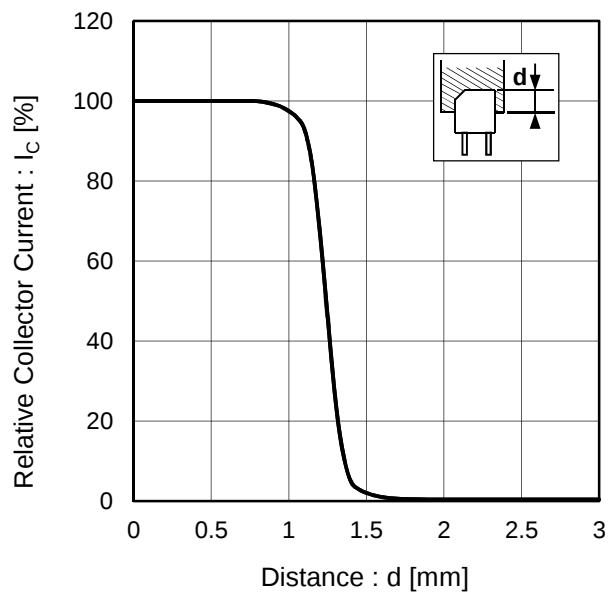


Fig.2 Relative Output Current vs.Distance (II)

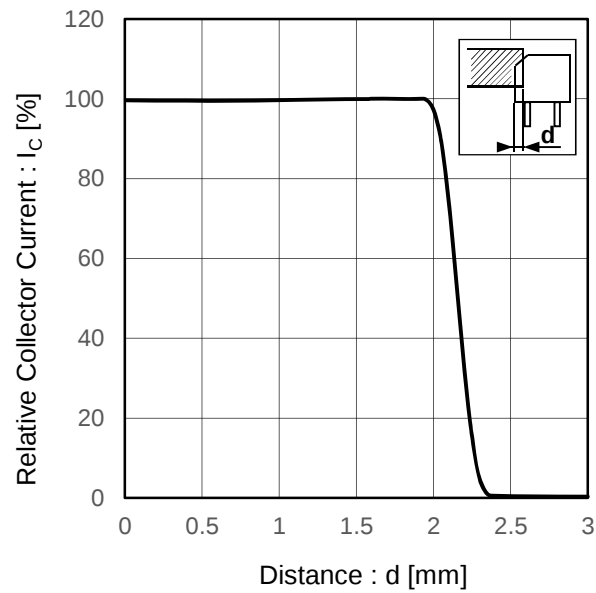


Fig.3 Forward Current Falloff

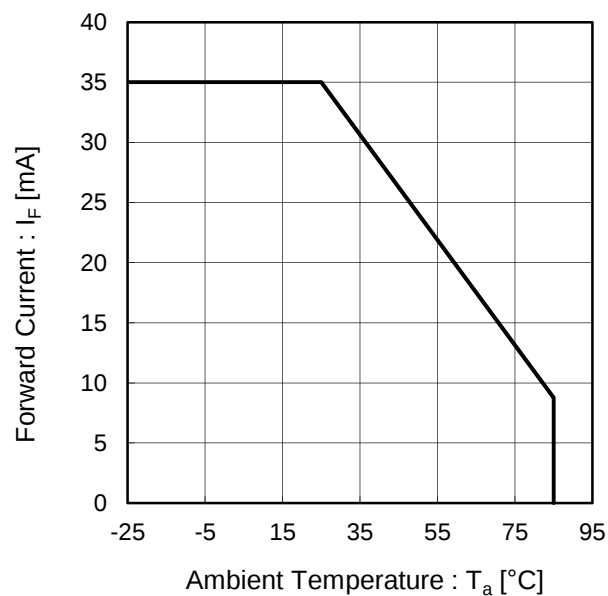
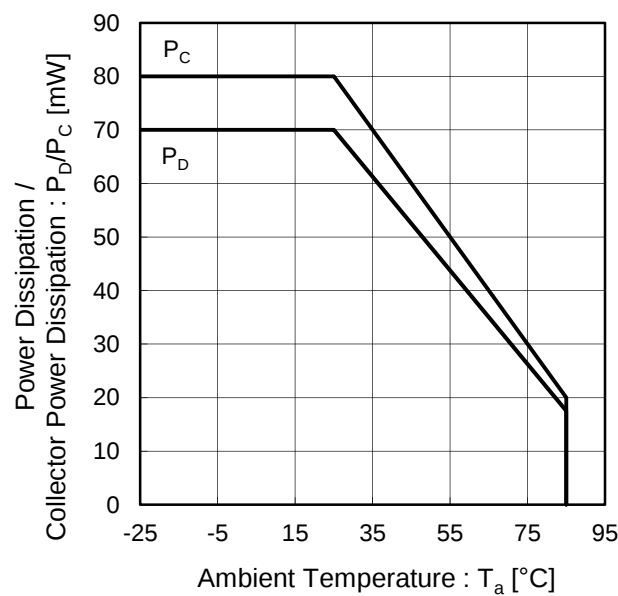


Fig.4 Power Dissipation / Collector Power Dissipation vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Forward Current vs. Forward Voltage

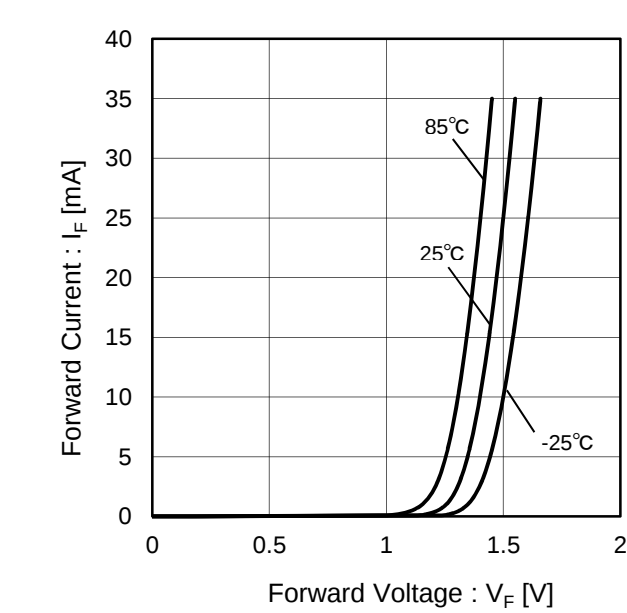


Fig.6 Collector Current vs. Forward Current

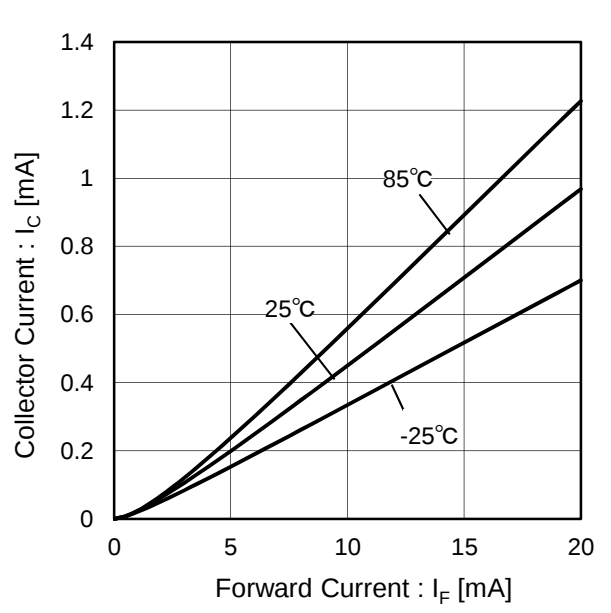


Fig.7 Relative Output vs. Ambient Temperature

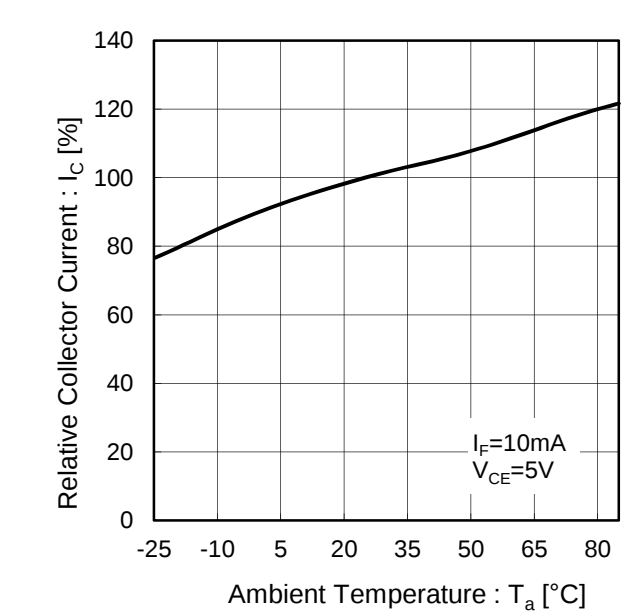
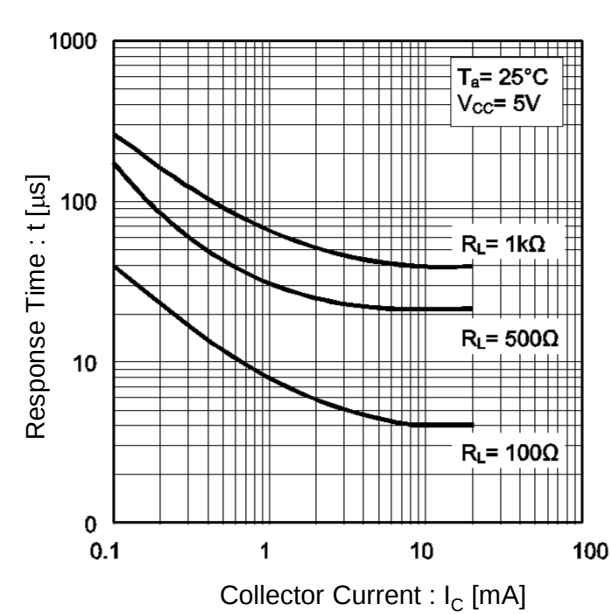


Fig.8 Response Time vs. Collector Current



●Electrical and optical characteristics curves

Fig.9 Dark Current vs. Ambient Temperature

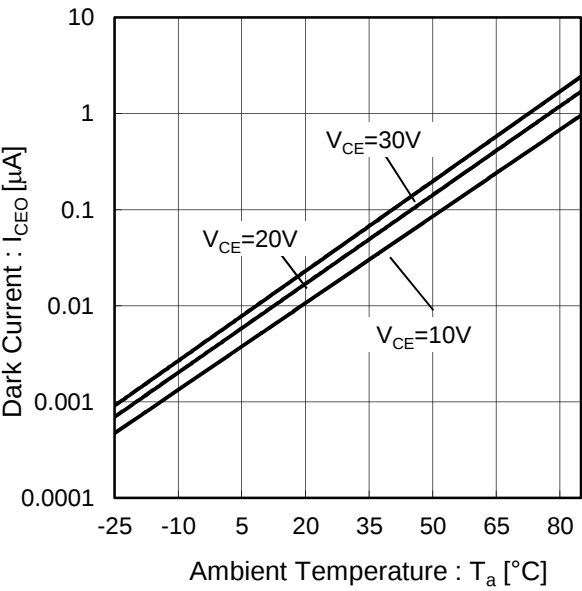
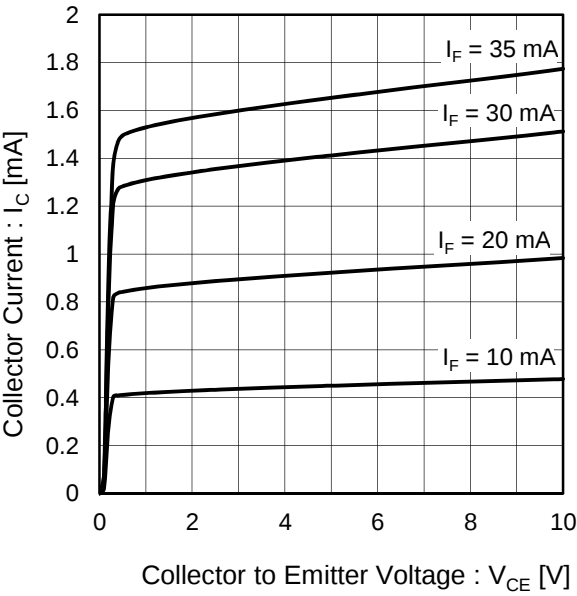


Fig.10 Output Characteristics



Notes

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