

### ●Applications

- Printers
- Optical Control Equipment
- Amusement

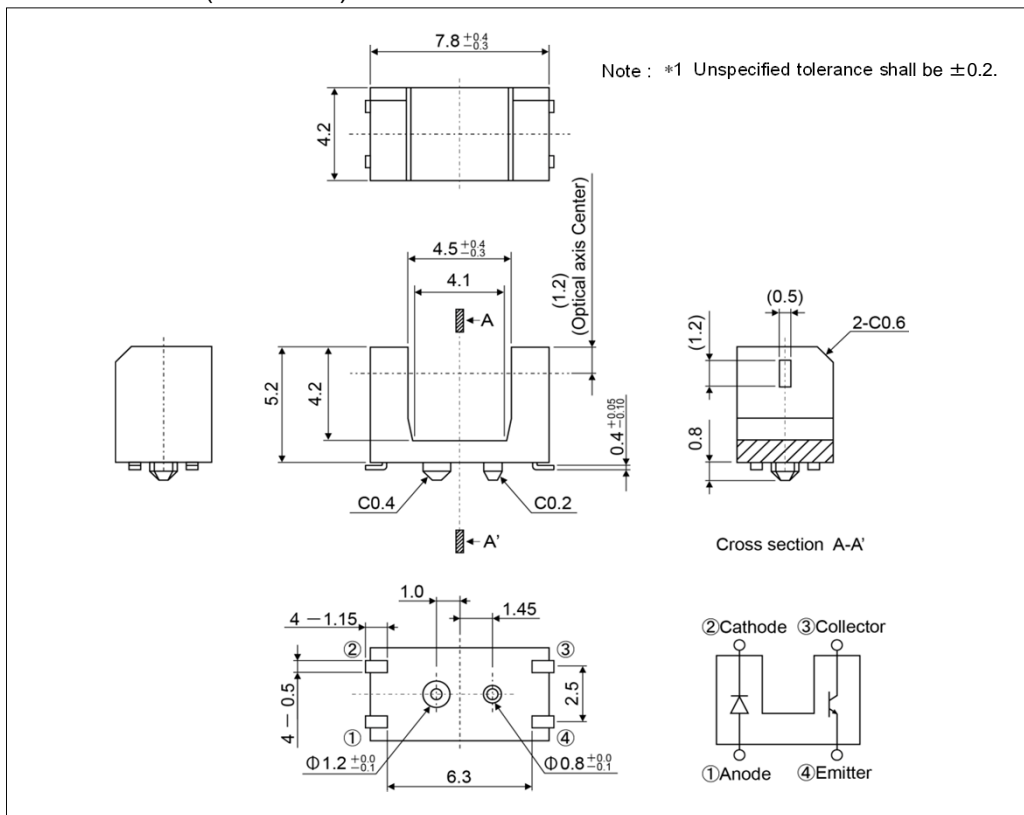
### ●Features

- 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	$\mu\text{A}$
Peak light emitting wavelength	$\lambda_p$	$I_F = 10\text{mA}$	-	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	$\mu\text{A}$
Peak sensitivity wavelength	$\lambda_p$		-	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	$t_r$	$V_{CC} = 5\text{V}, I_F = 10\text{mA}$	-	10	-	$\mu\text{s}$
	Fall time	$t_f$		$R_L = 100\Omega$	-	10	

●Electrical and optical characteristics curves

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

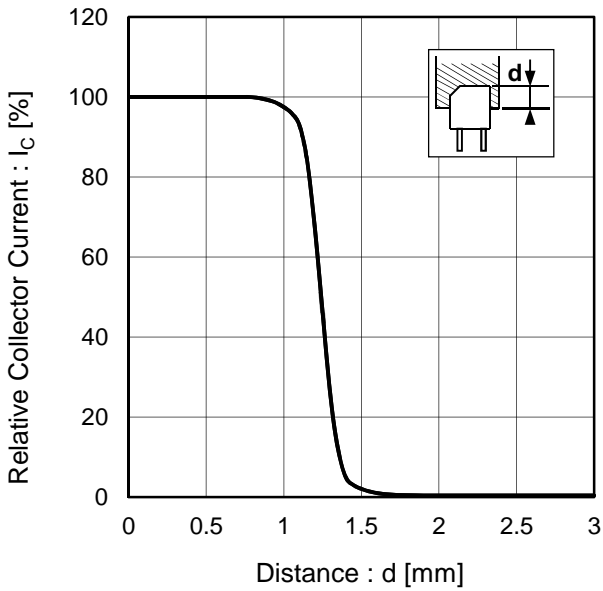


Fig.2 Relative Output Current vs.Distance (II)

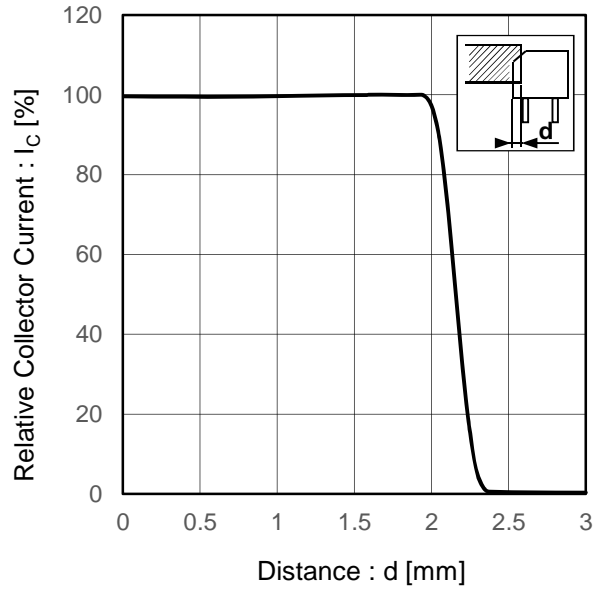


Fig.3 Forward Current Falloff

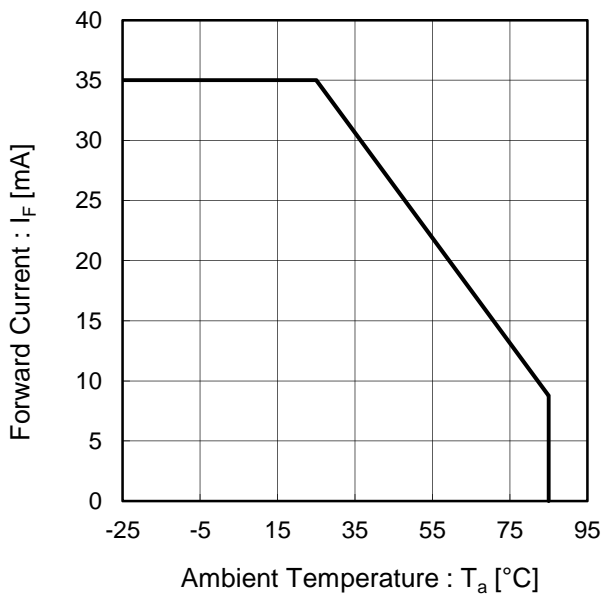
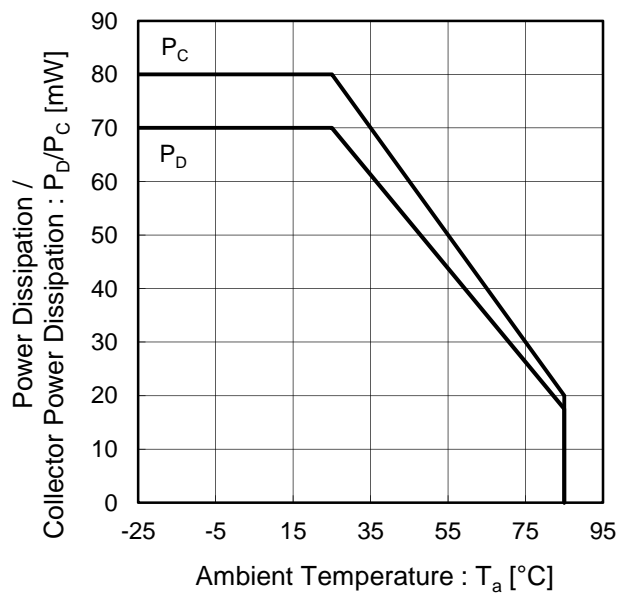


Fig.4 Power Dissipation / Collector Power Dissipation vs. Ambient Temperature



●Electrical and optical characteristics curves

Fig.5 Forward Current vs. Forward Voltage

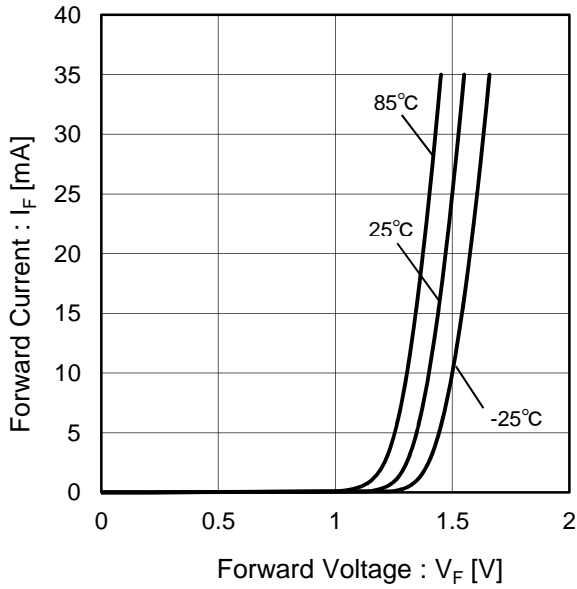


Fig.6 Collector Current vs. Forward Current

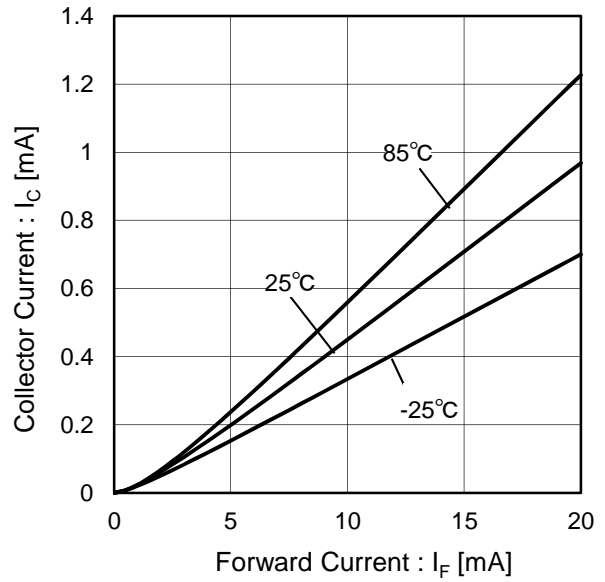


Fig.7 Relative Output vs. Ambient Temperature

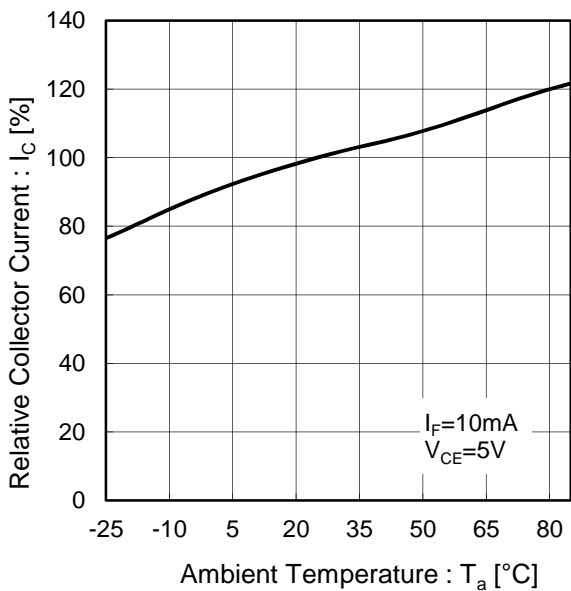
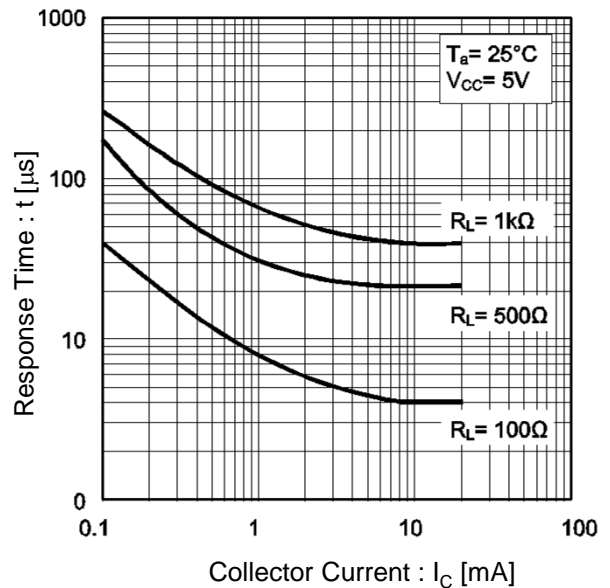


Fig.8 Response Time vs. Collector Current



●Electrical and optical characteristics curves

Fig.9 Dark Current vs. Ambient Temperature

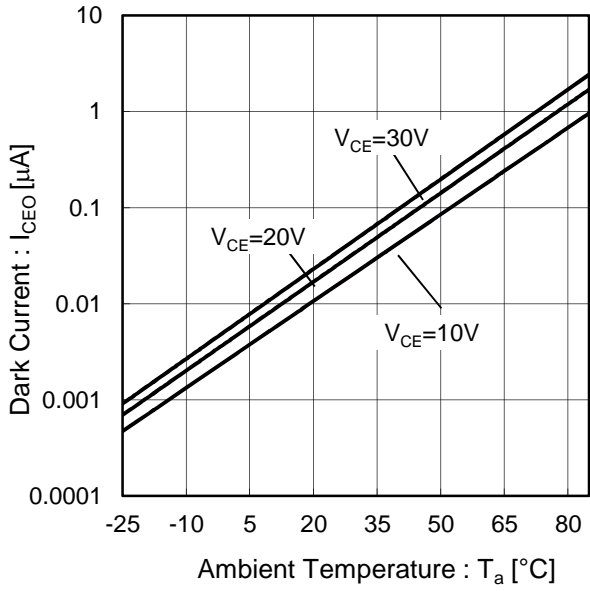
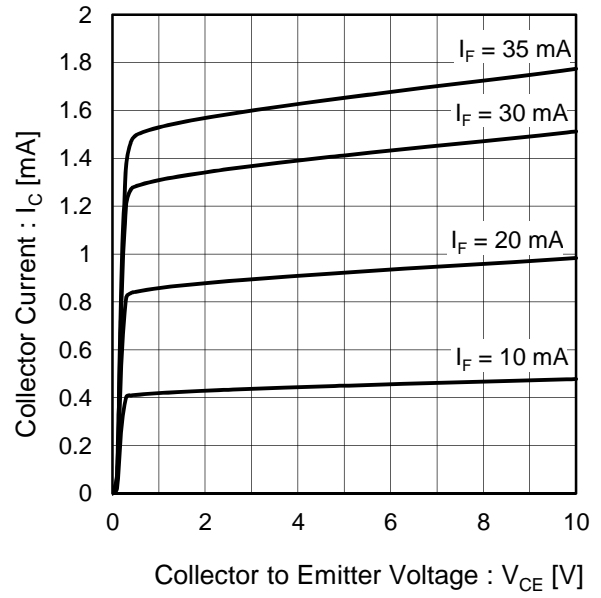


Fig.10 Output Characteristics



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