GP2S60

Subminiature, Reflective Type Photointerrupter for Automatic Mounting

■ Features

1. Subminiature, leadless type. (Dimensions : 3.2×1.7×1.1mm)
2. Soldering reflow.
   (Peak temperature : 240˚C, 10s or less)
3. Taped model. (2 000 pcs/reel)
4. Visible light cut-off type.

■ Applications

1. Audio equipment
2. VCR
3. Camcoders
4. Printers
5. CD-ROM drives

■ Absolute Maximum Ratings

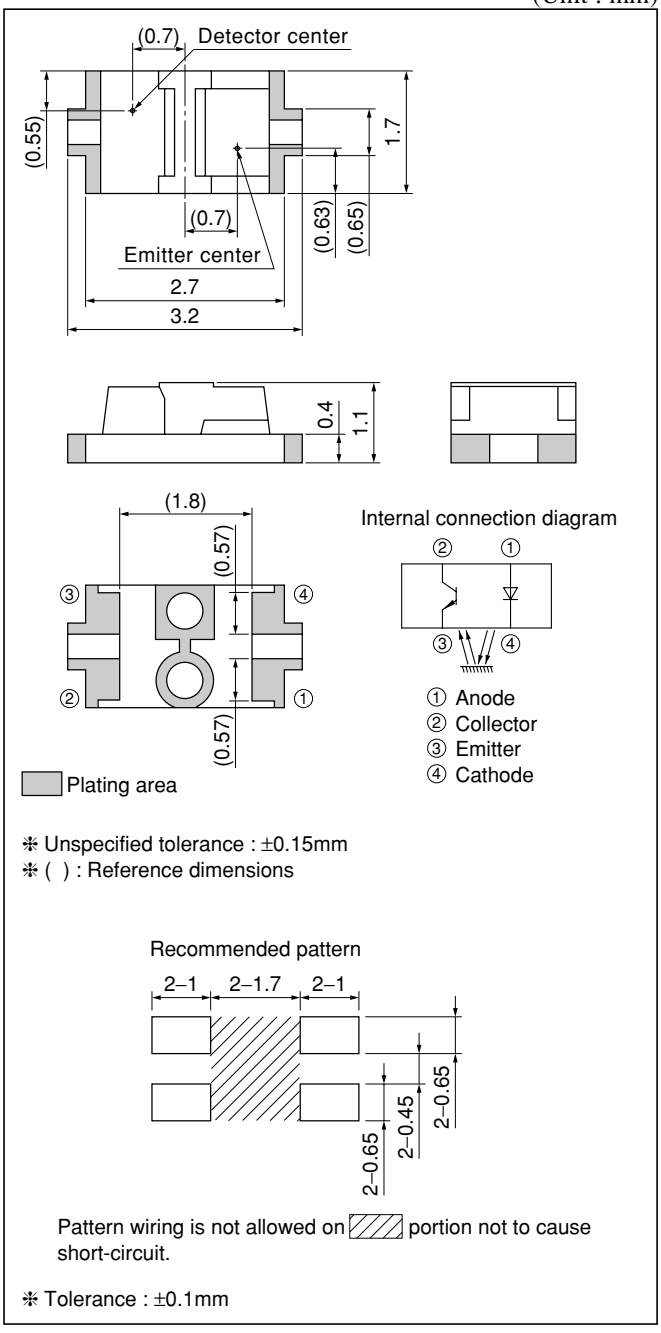
(T_a=25˚C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	I_F	50	mA
	Reverse voltage	V_R	6	V
	Power dissipation	P_D	75	mW
Output	Collector-emitter voltage	V_{CEO}	35	V
	Emitter-collector voltage	V_{ECO}	6	V
	Collector current	I_C	20	mA
	Collector power dissipation	P_C	75	mW
	Total power dissipation	P_{tot}	100	mW
	Operating temperature	T_{opr}	−25 to +85	˚C
	Storage temperature	T_{stg}	−40 to +100	˚C
	*Soldering temperature	T_{sol}	260	˚C

*For MAX. 5s

■ Outline Dimensions

(Unit : mm)



■ Electro-optical Characteristics

(Ta=25°C)

Parameter			Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage		V_F	I_F=20mA	–	1.2	1.4	V
	Reverse current		I_R	V_R=6V	–	–	10	μA
Output	Collector dark current		I_{CEO}	V_{CE}=20V	–	1	100	nA
Transfer characteristics	*1 Collector current		I_C	V_{CE}=2V, I_F=4mA	40	85	130	μA
	*2 Leak current		I_{LEAK}	V_{CE}=2V, I_F=4mA	–	–	500	nA
	Response time	Rise time	t_r	V_{CE}=2V, I_C=100μA	–	20	100	μs
		Fall time	t_f	R_L=1 000Ω, d=1mm	–	20	100	μs

*1 Refer to Fig.11
*2 No Reflective object

■ Rank Table

Model No.	Rank mark	Ic(μA)	Conditions
GP2S60	A or B	40 to 130	I_F=4mA V_{CE}=2V Ta=25°C
GP2S60A	A	40 to 80	
GP2S60B	B	65 to 130	

Fig.1 Forward Current vs. Ambient Temperature

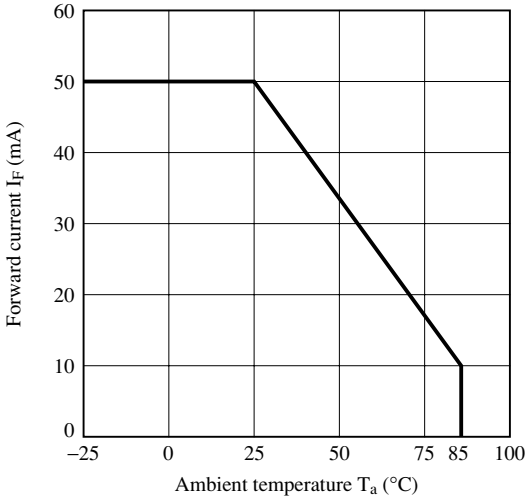


Fig.2 Power Dissipation vs. Ambient Temperature

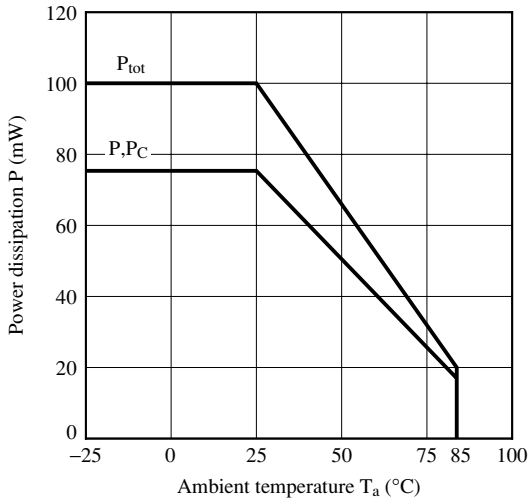


Fig.3 Forward Current vs. Forward Voltage

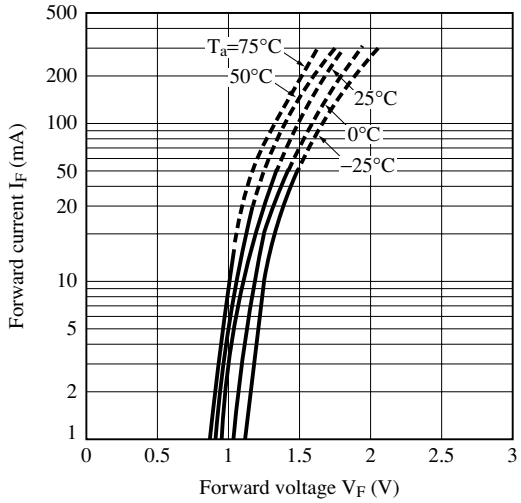


Fig.4 Collector Current vs. Forward Current

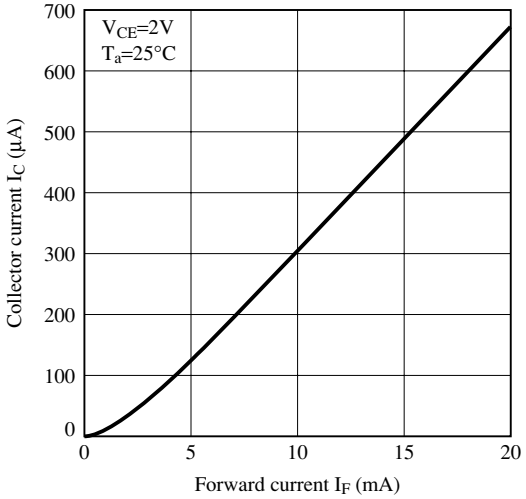


Fig.5 Collector Current vs. Collector-emitter Voltage

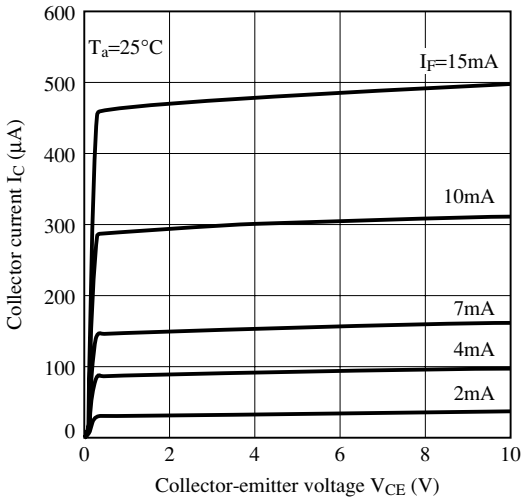


Fig.6 Relative Collector Current vs. Ambient Temperature

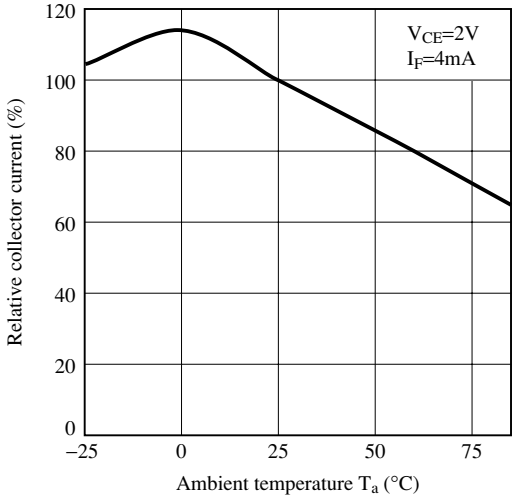


Fig.7 Collector Dark Current vs. Ambient Temperature

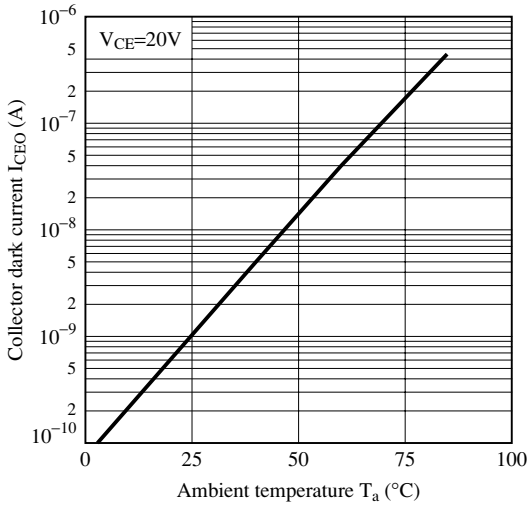


Fig.8 Response Time vs. Load Resistance

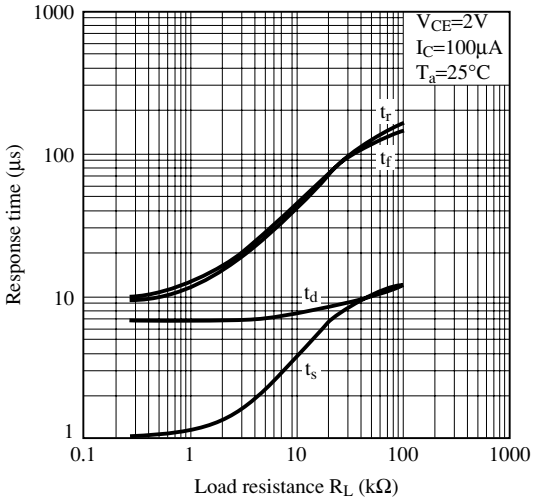


Fig.9 Test Circuit For Response Time

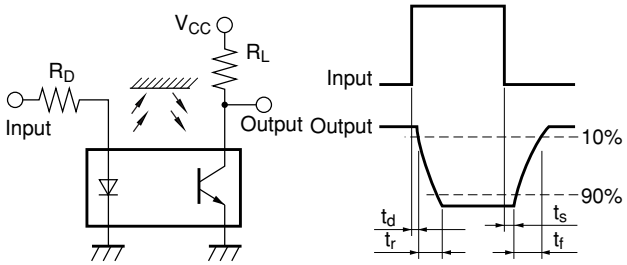


Fig.10 Relative Collector Current vs. Distance Between Sensor and Aluminum Evaporation Glass

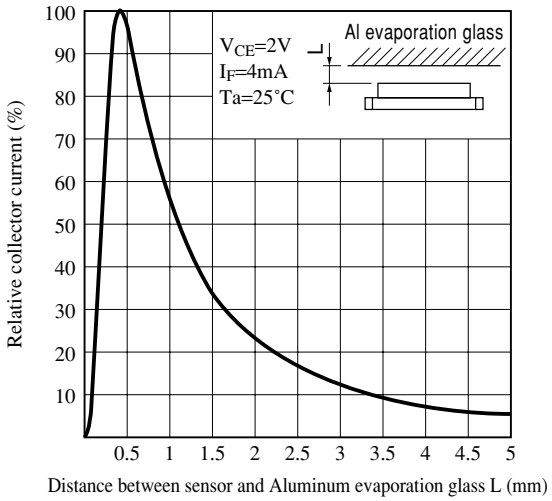


Fig.11 Measuring Configulation of Collector Current

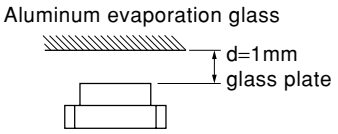


Fig.12 Spectral Sensitivity

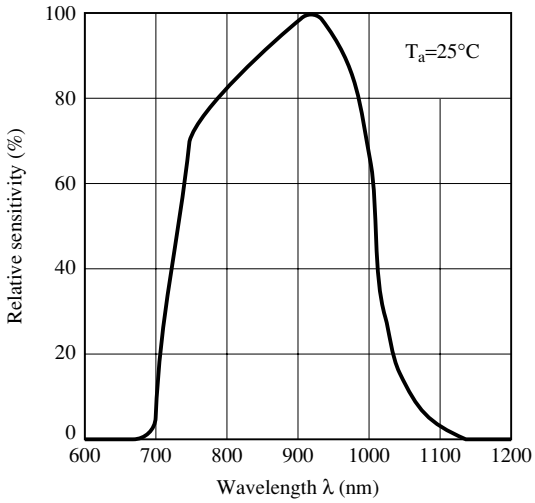


Fig.13 Relative Collector Current vs.OMS Card Moving Distance

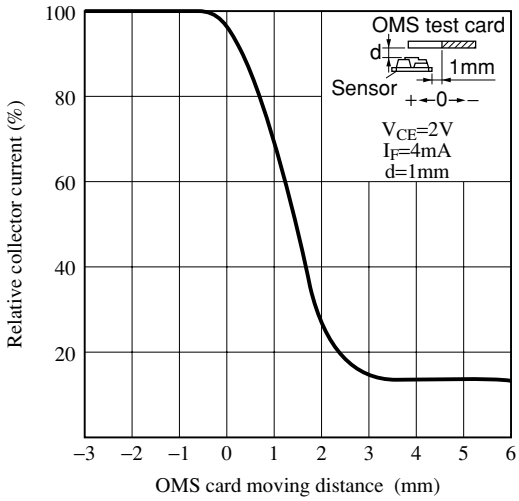


Fig.14 Relative Collector Current vs.OMS Card Moving Distance

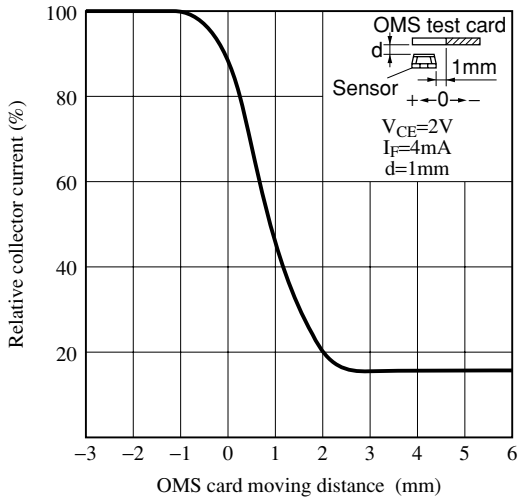
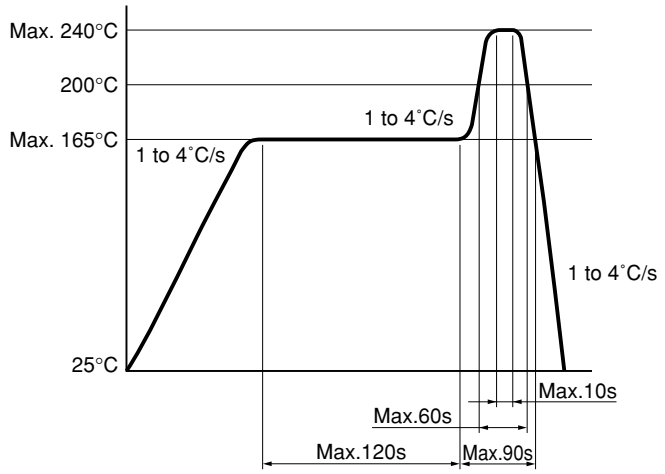


Fig.15 Reflow Soldering

Only one time soldering is available within the temperature profile shown below.



■ Other Precautions

An infrared lamp used to heat up for soldering may cause a localized temperature rise in the resin. So keep the package temperature within that specified in Item 1. Also avoid immersing the resin part in the solder. Even if within the temperature profile above, there is the possibility that the gold wire in package is broken in case that the deformation of PCW gives the affection to lead pins. Please use after confirmation the conditions fully by actual solder reflow machine.

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  --- Office automation equipment
  --- Telecommunication equipment [terminal]
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  --- Industrial control
  --- Audio visual equipment
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  --- Alarm equipment
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