

SG - 248

The SG – 248 photointerrupter high – performance standard type,combines high – output GaAs IRED with high sensitive phototransistor.

**FEATURES**

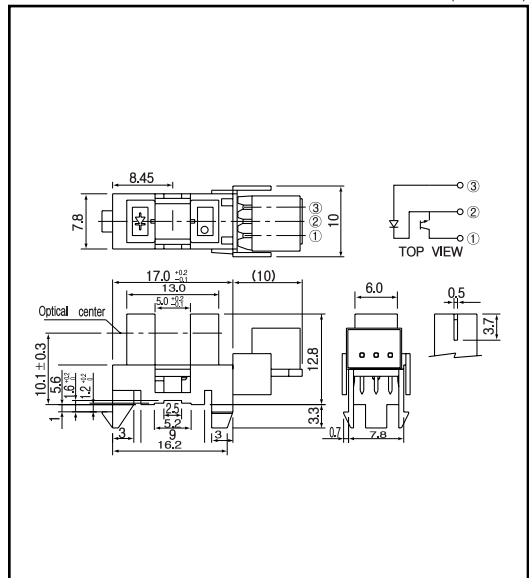
- Connector type AMP( JAPAN )Ltd.
- GAP : 5.0mm
- Snap– in mount
- 3 kinds of mounting plate thicknesses :  
:1.0mm,1.2mm,1.6mm

**APPLICATIONS**

- Copiers
- Printers
- A T M
- Ticket vending machines

**DIMENSIONS**

(Unit : mm)



**MAXIMUM RATINGS**

(Ta=25 )

Item	Symbol	Rating	Unit
Input	Power dissipation	P <sub>d</sub>	100 mW
	Forward current	I <sub>F</sub>	60 mA
	Reverse voltage	V <sub>R</sub>	5 V
	Pulse forward current <sup>1</sup>	I <sub>FP</sub>	1 A
Output	Collector power dissipation	P <sub>c</sub>	100 mW
	Collector current	I <sub>c</sub>	40 mA
	C - E voltage	V <sub>CE0</sub>	30 V
	E - C voltage	V <sub>ECO</sub>	5 V
	Operating temp. <sup>2,3</sup>	Topr.	- 20 ~ + 85
Storage temp. <sup>2,3</sup>	Tstg.	- 30 ~ + 85	

<sup>1</sup>1.pulse width : t w 100 ꝑec.period : T=10msec.

<sup>2</sup>2.No icebound or dew

<sup>3</sup>3.The connector shall be inserted or pulled out at normal temperature

**ELECTRO-OPTICAL CHARACTERISTICS**

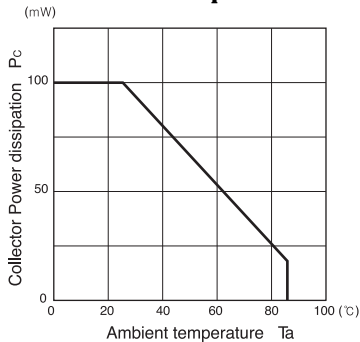
(Ta=25 )

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	I <sub>F</sub> = 20mA		1.2	1.4	V
	Reverse current	V <sub>R</sub> = 5V			10	µA
	Peak wavelength	I <sub>F</sub> = 20mA		940		nm
Output	Collector dark current	V <sub>CE</sub> = 10V		1	100	nA
	Light current	I <sub>F</sub> = 20mA, V <sub>E</sub> = 5V, Non – shading	0.25		10	mA
Transmissio	leakage current	I <sub>F</sub> = 20mA, V <sub>E</sub> = 5V(shading)		0.5	10	µA
	C - E saturation voltage	I <sub>F</sub> = 20mA, I <sub>c</sub> = 0.1mA		0.15	0.4	V
Rise time	t <sub>r</sub>	V <sub>cc</sub> = 5V, I <sub>c</sub> = 2mA, R = 100		4		µsec.
Fall time	t <sub>f</sub>			5		µsec.

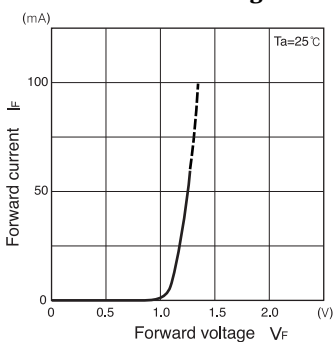
Photo interrupters(Transmissive)

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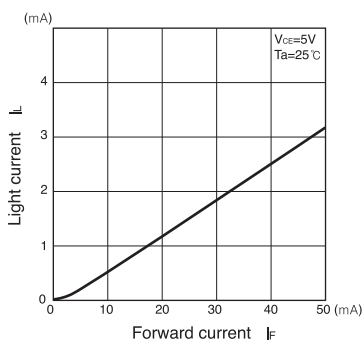
**Collector Power dissipation Vs. Ambient temperature**



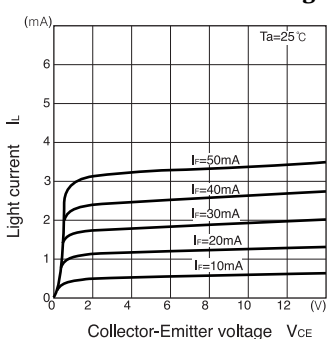
**Forward current Vs. Forward voltage**



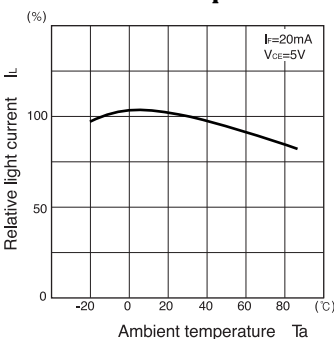
**Light current Vs. Forward current**



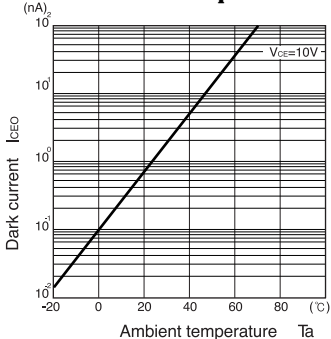
**Light current Vs. Collector-Emitter voltage**



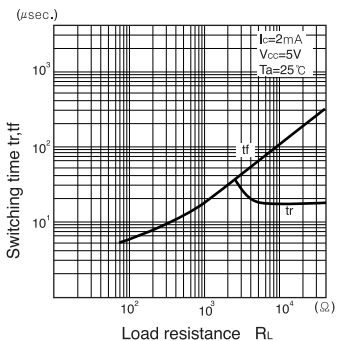
**Relative light current Vs. Ambient temperature**



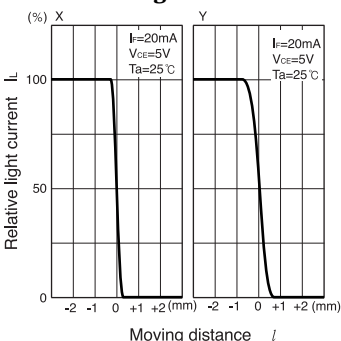
**Dark current Vs. Ambient temperature**



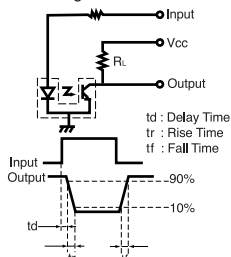
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



Switching time measurement circuit



Method of measuring position detection characteristic

