

# SG - 248R

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

## FEATURES

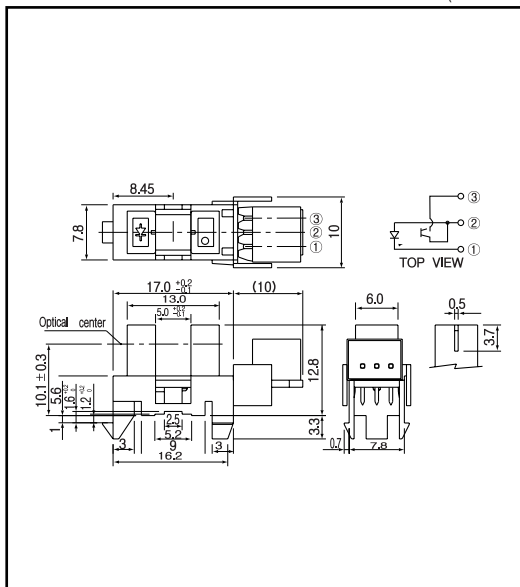
- Connector type AMP( JAPAN ),Ltd.
- GAP : 5.0mm
- Snap– in mount
- 3 kinds of mounting plate thicknesses :1.0mm,1.2mm,1.6mm
- Different connector order type from SG –248

## APPLICATIONS

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

## DIMENSIONS

(Unit : mm)



## MAXIMUM RATINGS

(Ta=25 )

Item	Symbol	Rating	Unit	
Input	Power dissipation	$P_o$	100	mW
	Forward current	$I_f$	60	mA
	Reverse voltage	$V_R$	5	V
	Pulse forward current *1	$I_{FP}$	1	A
Output	Collector power dissipation	$P_c$	100	mW
	Collector current	$I_c$	40	mA
	C - E voltage	$V_{CEO}$	30	V
	E - C voltage	$V_{ECO}$	5	V
	Operating temp.*2*3	$T_{opr.}$	- 20 ~ +85	
Storage temp.*2*3	$T_{stg.}$	- 30 ~ +85		

\*1. pulse width : t w 100 ꝑec.period : T=10msec.

\*2. No icebound or dew

\*3. The connector shall be inserted or pulled out at normal temperature

## ELECTRO-OPTICAL CHARACTERISTICS

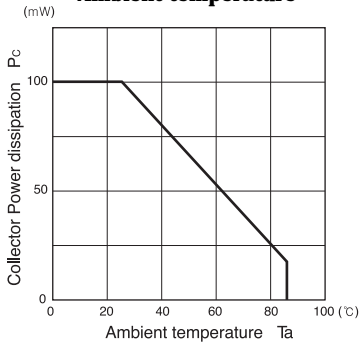
(Ta=25 )

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	$V_f$	$I_f=20mA$	1.2	1.4	V
	Reverse current	$I_r$	$V_R=5V$		10	$\mu A$
	Peak wavelength	$\lambda_p$	$I_f=20mA$		940	nm
Output	Collector dark current	$I_{CEO}$	$V_{CE}=10V$	1	100	nA
	Light current	$I_c$	$I_f=20mA, V_E=5V, Non-shading$	0.5	10	mA
Transmissi	leakage current	$I_{CEOD}$	$I_f=20mA, V_E=5V(shading)$	0.5	10	$\mu A$
	C - E saturation voltage	$V_{CE(sat)}$	$I_f=20mA, I_c=0.1mA$	0.15	0.4	V
	Rise time	$t_r$	$V_{CC}=5V, I_b=2mA, R=100$		4	$\mu sec.$
	Fall time	$t_f$		5	$\mu sec.$	

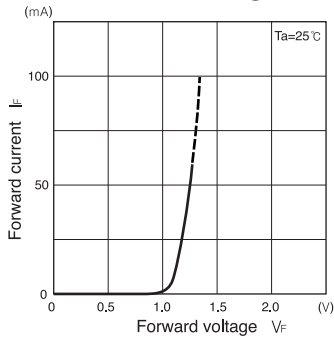
# Photointerrupters(Transmissive)

## SG - 248R

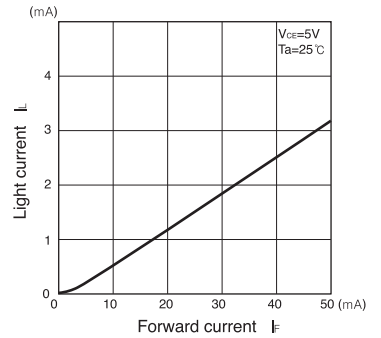
**Collector Power dissipation Vs. Ambient temperature**



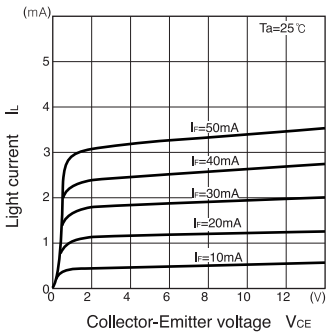
**Forward current Vs. Forward voltage**



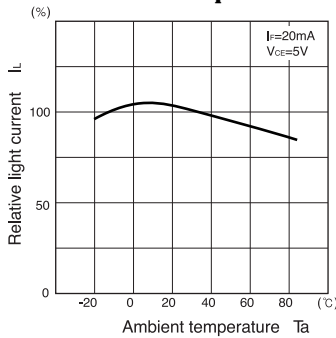
**Light current Vs. Forward current**



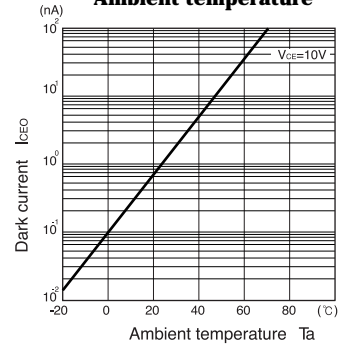
**Light current Vs. Collector-Emitter voltage**



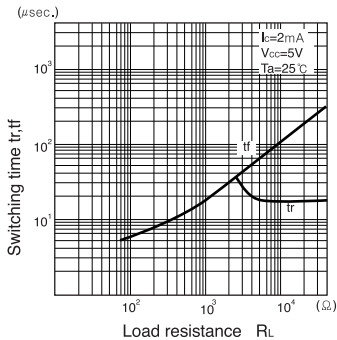
**Relative light current Vs. Ambient temperature**



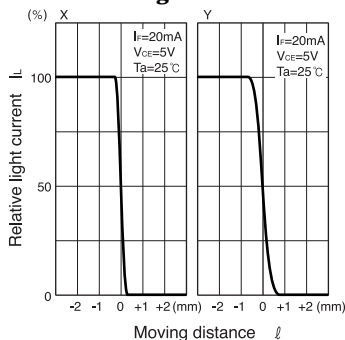
**Dark current Vs. Ambient temperature**



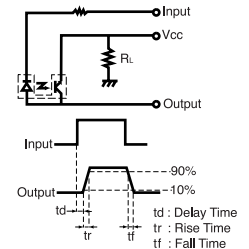
**Switching time Vs. Load resistance**



**Relative light current Vs. Moving distance**



**Switching time measurement circuit**



**Method of measuring position detection characteristic**

