

SG23FF

The SG23FF Photointerrupter high-performance standard type, combines high-output GaAs IRED with high sensitive phototransistor.

Features

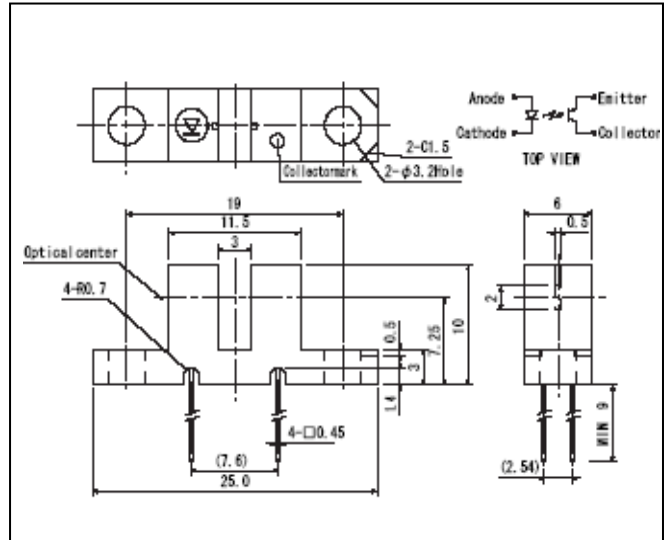
- PWB direct mount type
- GAP : 3.0mm
- Double-sided screw-mount

Applications

- Printers
- Facsimiles
- Auto stampers
- Ticket vending machines

Dimensions

(Unit : mm)



Absolute Maximum Ratings

[Ta = 25°C]

Description		Symbol	Ratings	Unit
Input	Power dissipation	P_D	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
	Collector-Emitter voltage	V_{CEO}	30	V
	Emitter-Collector voltage	V_{ECO}	5	V
Operating temp. *2		Topr.	-20~+85	°C
Storage temp. *2		Tstg.	-30~+85	°C
Soldering temp. *3		Tsol.	260	°C

*1. Pulse width $t_w \leq 100\mu s$ period $T=10ms$

*2. No icebound or dew

*3. For MAX 5 seconds at the position of 1mm from the resin edge

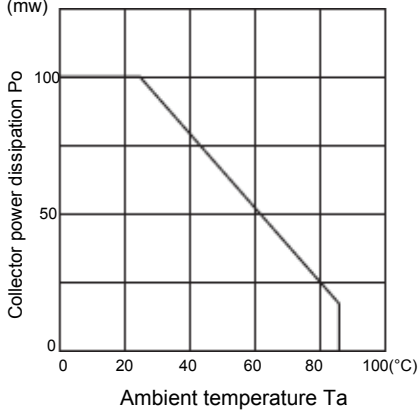
Electro-Optical Characteristics

[Vcc= 5V, Ta = 25°C]

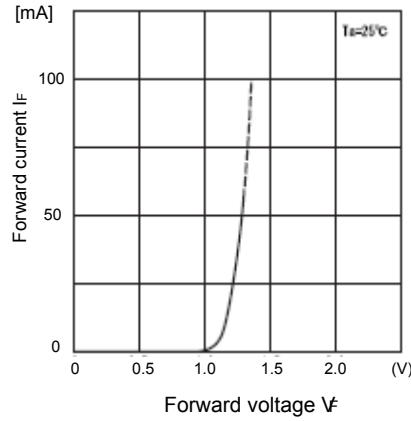
Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V_F	$I_F=20mA$	-	1.2	1.4	V
	Reverse current	I_R	$V_R=5V$	-	-	10	μA
	Peak wavelength	λ_p	$I_F=20mA$	-	940	-	nm
Output	Collector dark current	I_{CEO}	$V_{CE}=10V, 0 lx$	-	1	100	nA
Transmission	Light current	I_C	$I_F=20mA, V_{CE}=5V, Non-shading$	0.3	-	10	mA
	Leakage current	I_{CEOD}	$I_F=20mA, V_{CE}=5V, shading$	-	0.5	10	μA
	C-E saturation Voltage	$I_{CE(sat)}$	$I_F=20mA, I_C=0.1mA$	-	0.15	0.4	V
	Rise time	t_r	$V_{CC}=5V, I_C=2mA, R_L=100\Omega$	-	4	-	μs
	Fall time	t_f	$R_L=100\Omega$	-	5	-	μs

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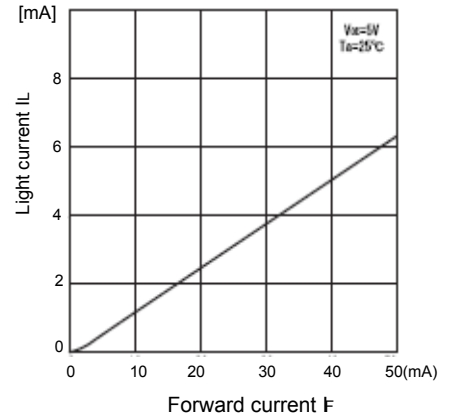
Collector power dissipation Vs. Ambient temperature



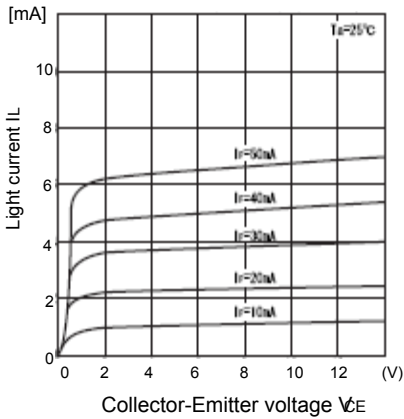
Forward current Vs. Forward voltage



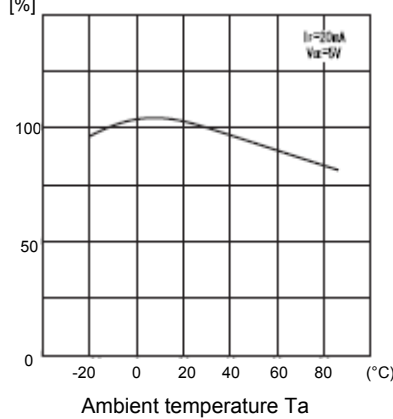
Light current Vs. Forward current



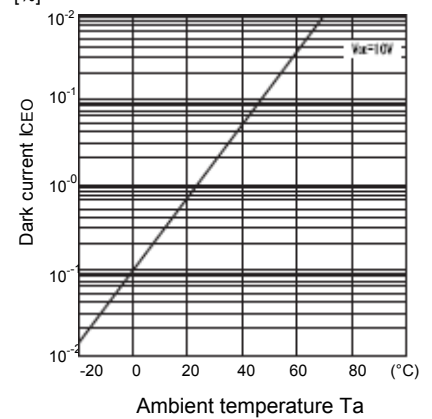
Light current Vs. Collector-Emitter voltage



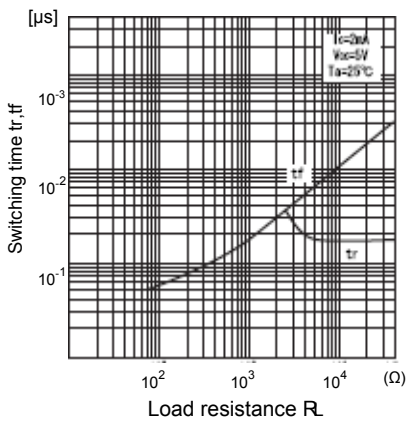
Relative light current Vs. Ambient temperature



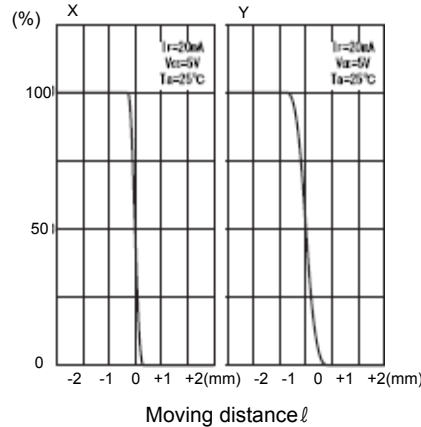
Dark current Vs. Ambient temperature



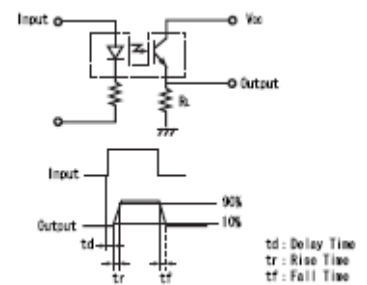
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

