SG - 23FF· SG - 23FH· SG - 23FI· SG - 23FT

The SG - 23FF, 23FH, 23FI, and 23FT photointerrupters high - performance standard type, combine high - output GaAs IRED with high sensitive phototransistor.

FEATURES

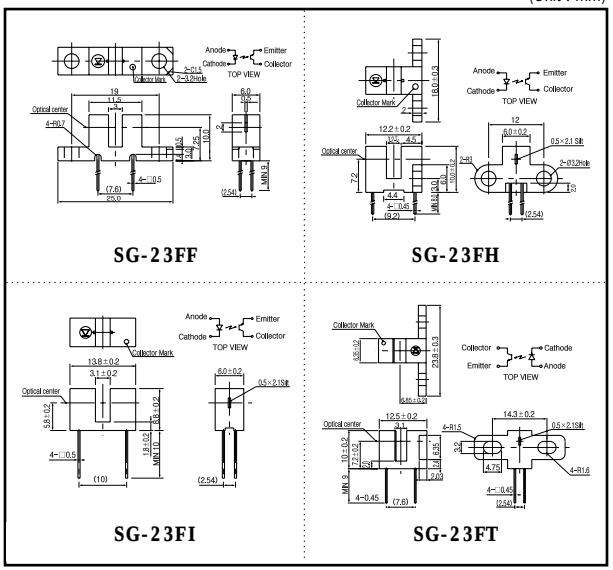
- 0.5mm aperture
- High - speed response
- Easy to mount on P.C.B.
- Widely applicable

APPLICATIONS

- Tape - end sensors
- Timing sensors
- Edge sensors
- Copiers

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25℃)

Item		Symbol	Rating	Unit
Input	Power dissipation	P_D	100	mW
	Reverse voltage	V_R	5	V
	Forward current	I_F	60	mA
	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.		Topr.	- 20~ +85	℃
Storage temp.		Tstg.	- 30~ +85	℃
Soldering temp.*2		Tsol.	240	℃

*1. t w≦100 μsec. period : T=10msec.
*2. For MAX. 5 seconds at the position of 2mm from the package

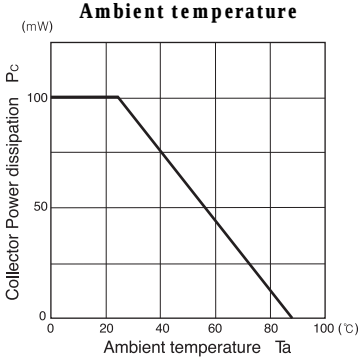
ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25℃)

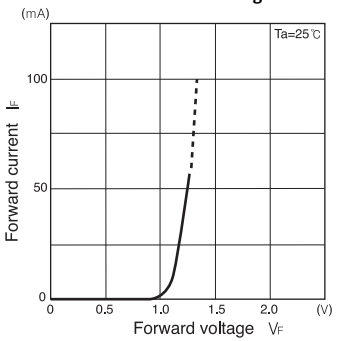
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Input	Forward voltage	V_F	I_F=30mA		1.2	1.5	V
	Reverse current	I_R	V_R=5V			10	μA
	Capacitance	Ct	V=0, f=1KHz		25		pF
	Peak wavelength	λp			940		nm
Output	Collector dark current	I_{CEO}	V_{CE}=10V			0.1	μA
Light current		I_L	V_{CE}=5V, I_F=20mA	0.3			mA
C - E saturation voltage		$V_{CE(sat)}$	I_F=30mA, I_C=0.1mA			0.4	V
Switching speeds	Rise time	tr	V_{CC}=5V, I_C=2mA		5		μsec.
	Fall time	tf	R_L=100Ω		5		μsec.

SG - 23FF· SG - 23FH· SG - 23FI· SG - 23FT

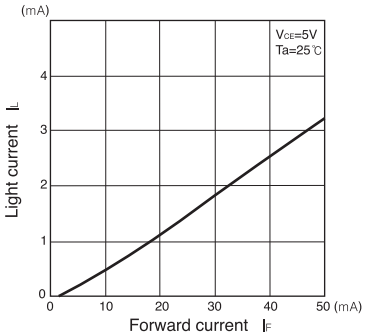
Collector power dissipation Vs. Ambient temperature



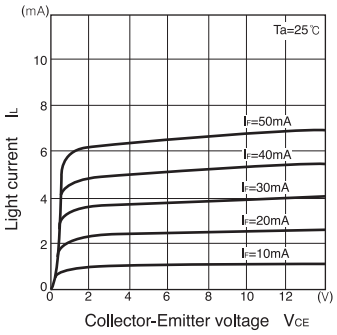
Forward current Vs. Forward voltage



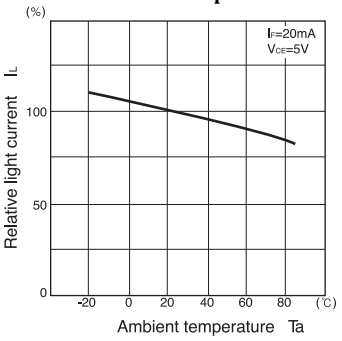
Light current Vs. Forward current



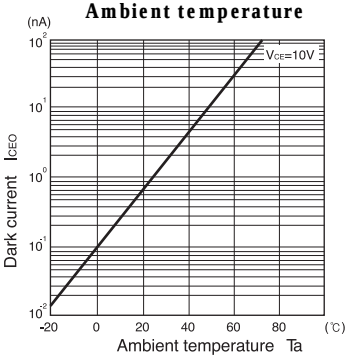
Light current Vs. Collector-Emitter voltage



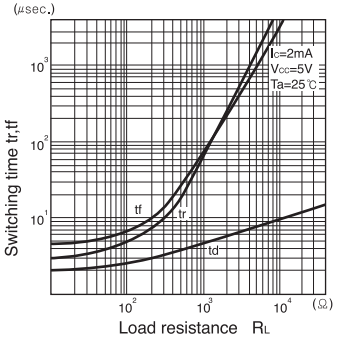
Relative light current Vs. Ambient temperature



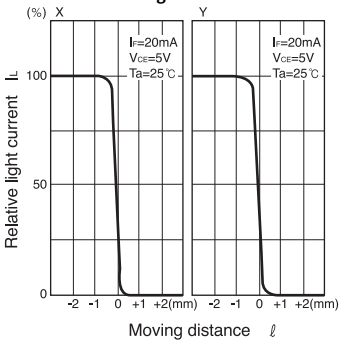
Dark current Vs. Ambient temperature



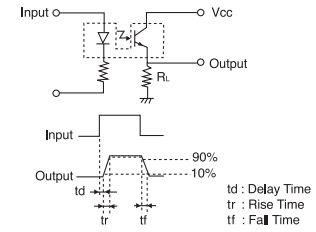
Switching time Vs. Load resistance



Relative light current Vs. Moving distance



Switching time measurement circuit



Method of measuring position characteristic

