

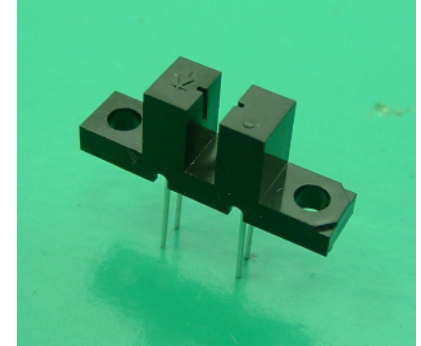
PHOTO INTERRUPTER (Transmission)

General Description

The FI-23FF is Photo-Interrupter high-performance standard type. combines high-output GaAs IRED with high sensitive Photo-transistor.

Features

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



Applications

- Facsimiles
- Printers
- Auto stampers
- Ticket vending machines

MAXIMUM RATINGS

(Ta=25°C)

Item		Symbol	Rating	Unit
Input	Power dissipation	PD	100	mW
	Forward current	IF	60	mA
	Reverse voltage	VR	5	V
	Pulse forward current *1	IFP	1	A
Output	Collector power dissipation	PC	100	mW
	Collector current	IC	40	mA
	Collector-Emitter voltage	VCEO	30	V
	Emitter-Collector voltage	VECO	5	V
Operating temp.		Topr.	-20 ~ +85	°C
Storage temp.		Tstg.	-30 ~ +85	°C
Soldering temp. *2		Tsol.	260	°C

*1. pulse width : $t_w \leq 100\mu\text{sec}$. Period : $t = 10\text{msec}$

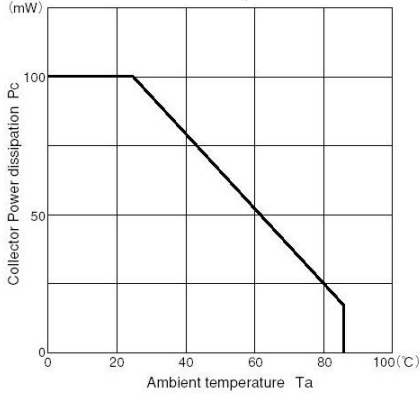
*2. For MAX. 5seconds at the position of 2mm from the resin edge

ELECTRO-OPTICAL CHARACTERISTICS

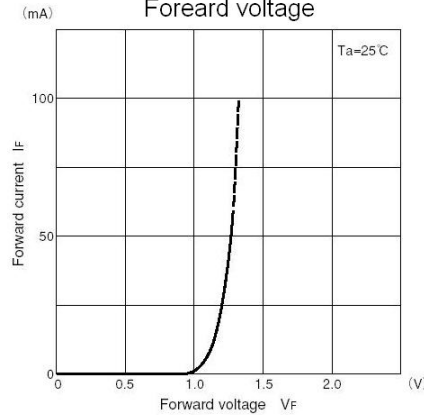
(Ta=25°C)

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	μA
	Peak wavelength	λ _p	I _F =20mA	-	940	-	nm
Output	Collector dark current	I _{CEO}	V _{CE} =10V	-	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	V _{CE(sat)}	I _F =20mA, I _C =0.1mA	-	0.15	0.4	V
Switching Speeds	Rise time	t _r	V _{CC} =5V, I _C =2mA	-	4	-	μsec
	Fall time	t _f	R _L =100Ω	-	5	-	μsec

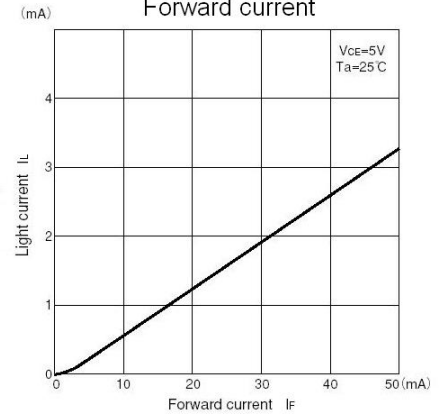
Collector power dissipation
vs.
Ambient temperature



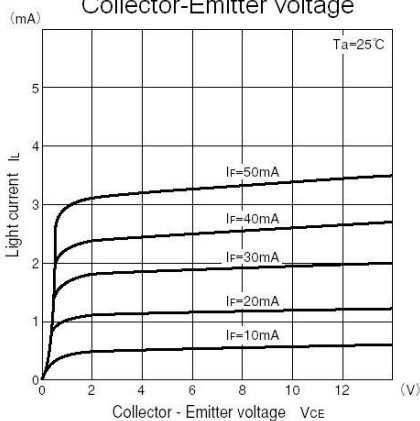
Forward current
vs.
Forward voltage



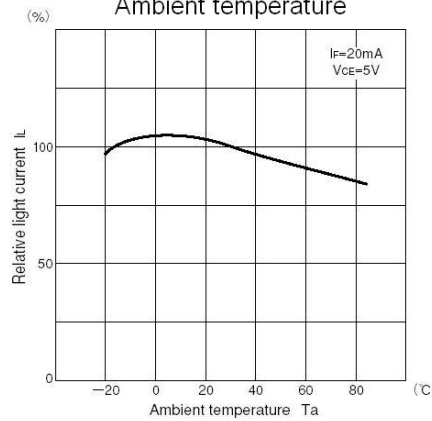
Light current
vs.
Forward current



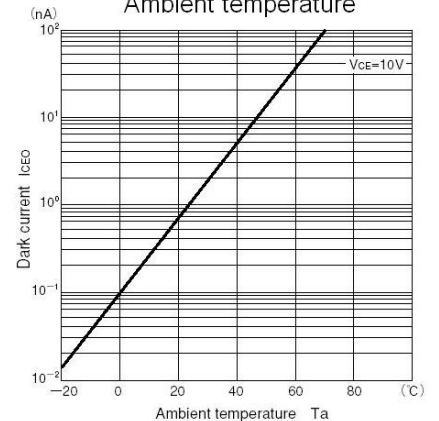
Light current
vs.
Collector-Emittor voltage



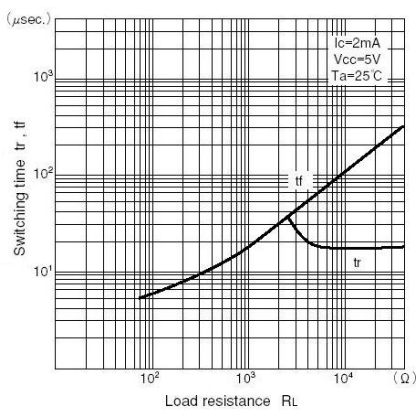
Relative light current
vs.
Ambient temperature



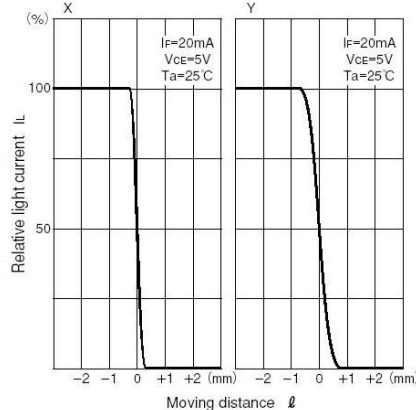
Dark current
vs.
Ambient temperature



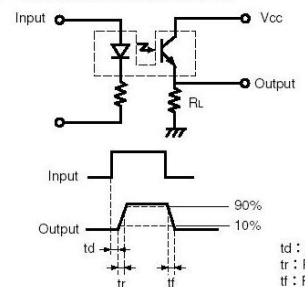
Switching time
vs.
Load resistance



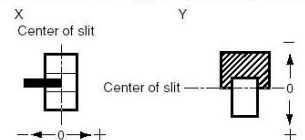
Relative light current
vs.
Moving distance



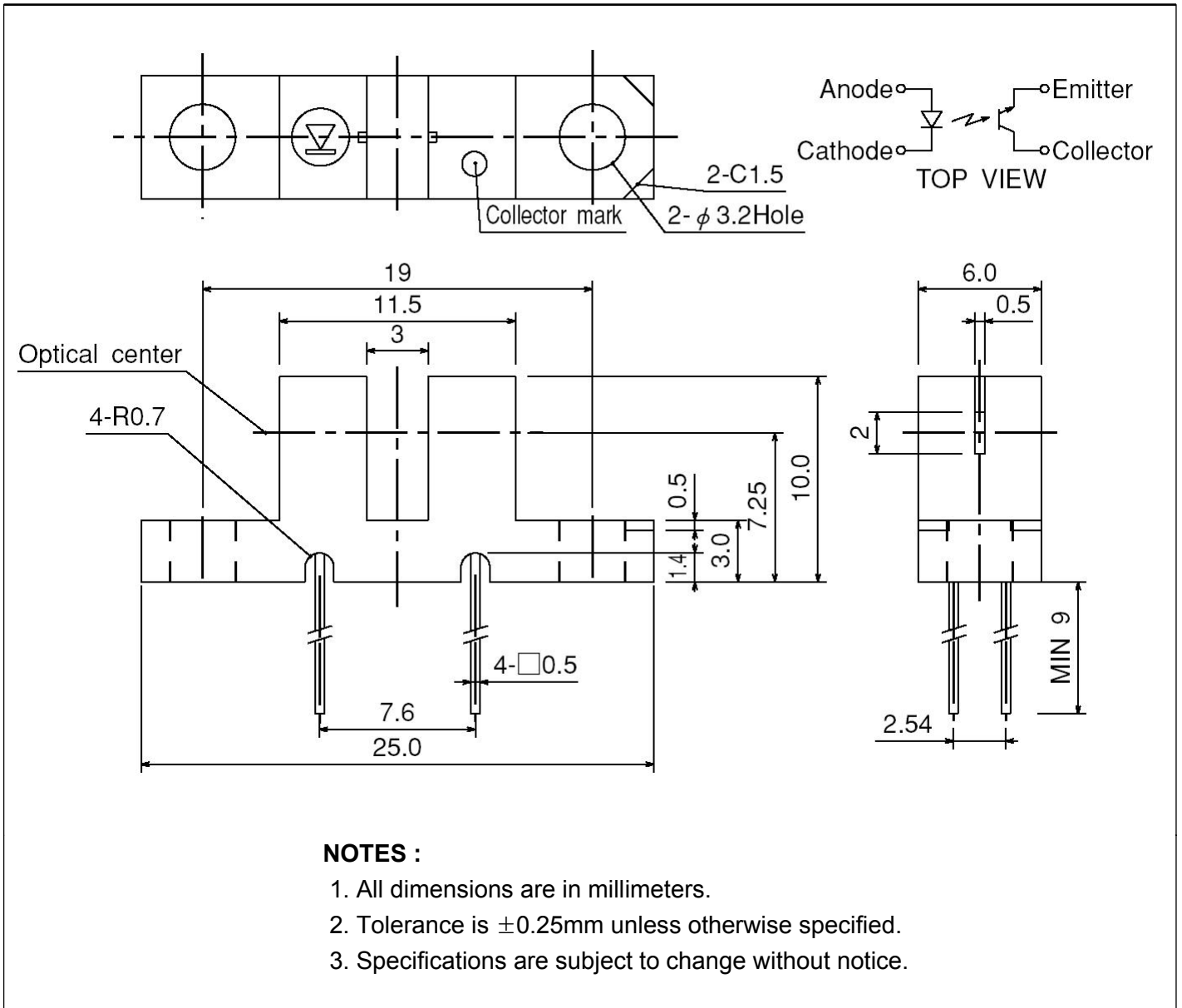
*1 Switching time measurement circuit



*2 Method of measuring position detection characteristic



DIMENSIONS



APPLICATION CIRCUIT

