

PHOTO INTERRUPTER (Transmission)

General Description

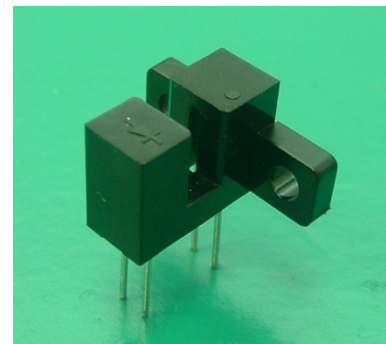
The FI-289F is Photo-Interrupter high-performance standard type , combines high-output GaAs IRED with high sensitive Photo-transistor.

Features

- High performance
- GAP: 3.4mm
- High-speed response
- Widely
- Meet RoHS

Applications

- Tape-end sensor
- Timing sensor
- Copiers
- Edge sensor



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.	240	°C

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

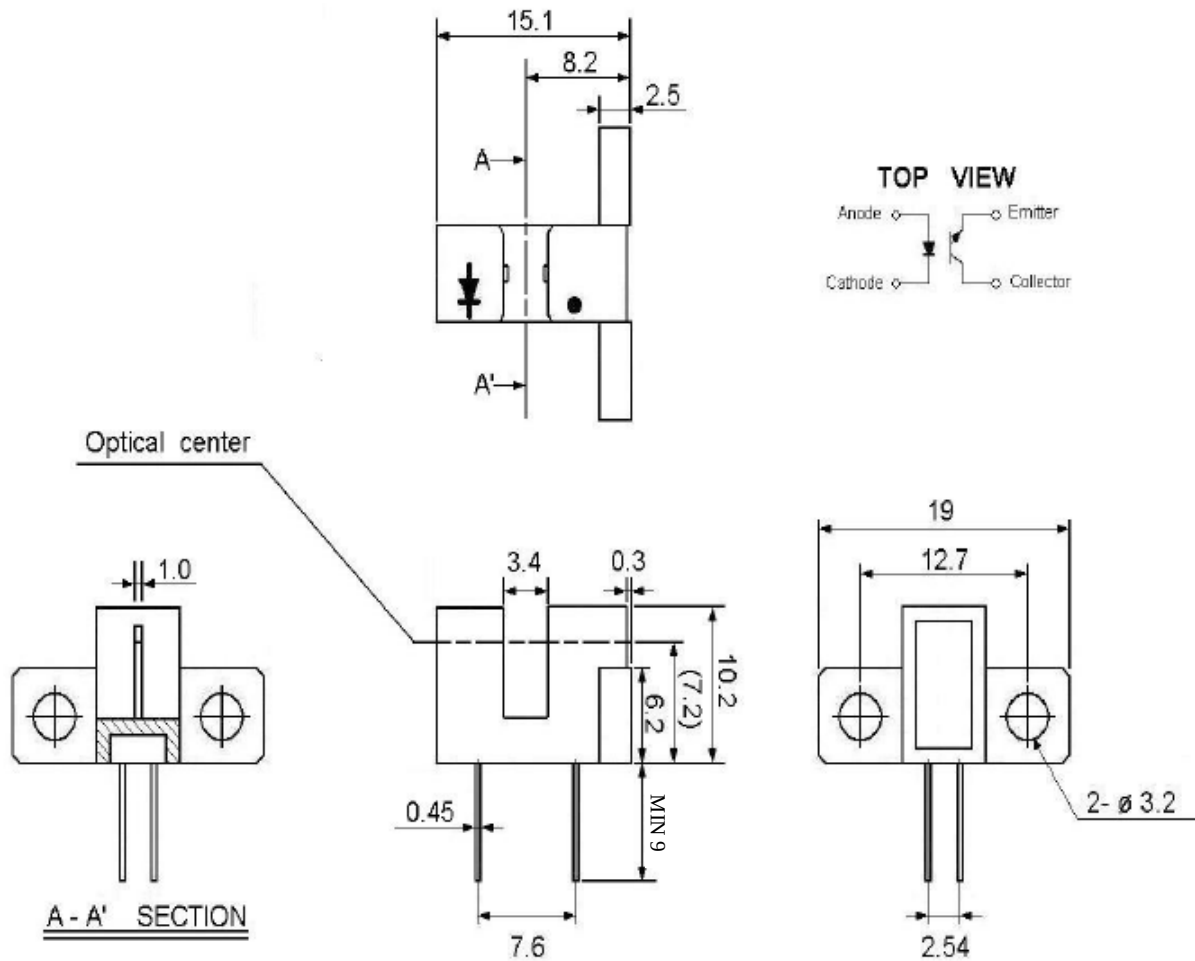
*2. For MAX. 5seconds at the position of 2mm from the resin edge

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

Item		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward voltage	VF	IF=20mA	-	1.2	1.5	V
	Reverse current	IR	VR=5V	-	0.01	10	uA
	Peak wavelength	λ_p	IF=20mA	-	940	-	nm
Output	Collector dark current	ICEO	VCE=10V	-	-	0.1	uA
Transmission	Light current	IC	IF=20mA, VCE=5V (Non-shading)	0.25	-	-	mA
	Leakage current	ICEOD	IF=20mA, VCE=5V (Shading)	-	0.5	10	uA
	C-E saturation voltage	VCE(sat)	IF=20mA, IC=0.1mA	-	-	0.4	V
Switching Speeds	Rise time	tr	Vcc=5V, IC=2mA	-	6	30	usec
	Fall time	tf	RL=100Ω	-	9	45	usec

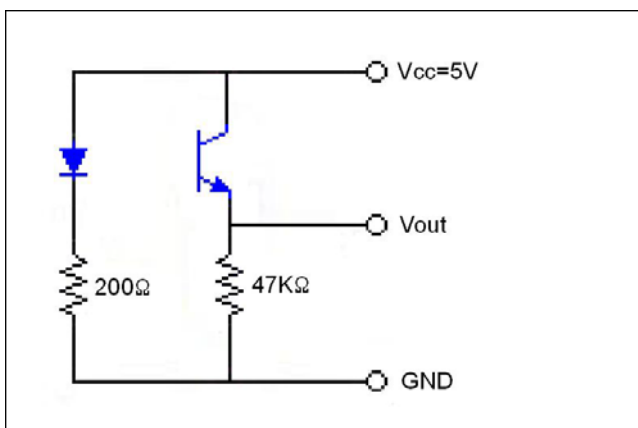
DIMENSIONS



NOTES :

1. All dimensions are in millimeters.
2. Tolerance is $\pm 0.25\text{mm}$ unless otherwise specified.
3. Specifications are subject to change without notice.

APPLICATION CIRCUIT



Soldering Profile

Compliant with the following condition :

(1) Leaded quantity of product below 100 ppm

(2) Lead-free process

Shape	Lead Frame Type / Holder Type
Hand soldering	1. Temp. at tip of iron : 320°C MAX (30W MAX). 2. Soldering time : 3 sec MAX.
Wave soldering	1. Preheat temp : 100°C MAX , 60 sec MAX. 2. Bath temp : 240°C MAX. 3. Bath time : 3 sec MAX.

