

## PHOTO INTERRUPTER (Transmission)

### General Description

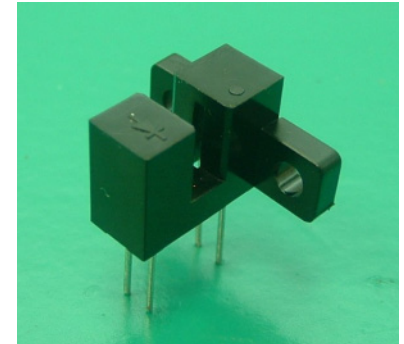
The FI-289F is Photo-Interrupter high-performance standard type, combines high-output GaAs IRED with high sensitive Photo-transistor.

### Features

- High performance
- GAP:5.0mm
- 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   |

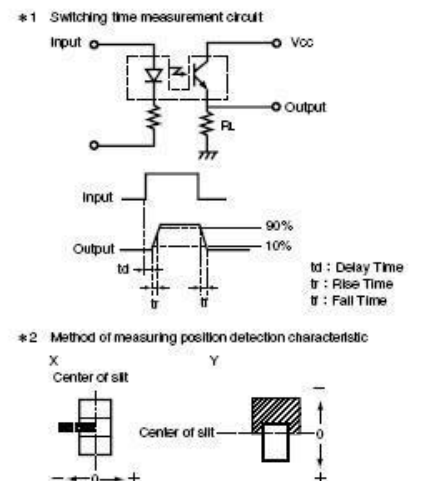
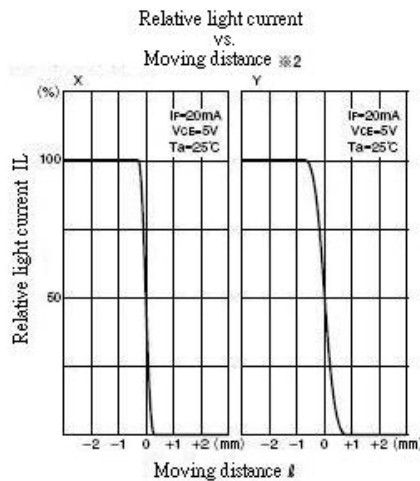
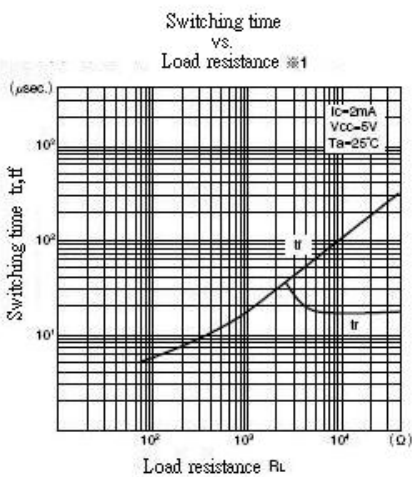
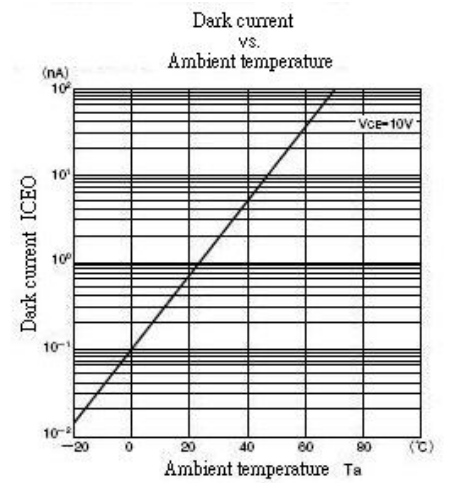
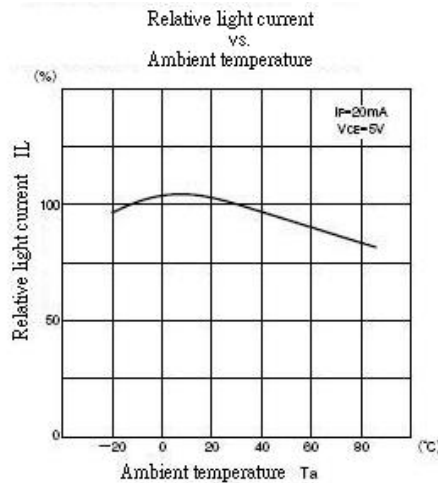
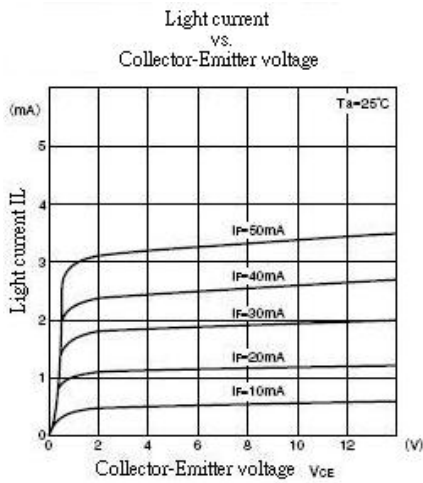
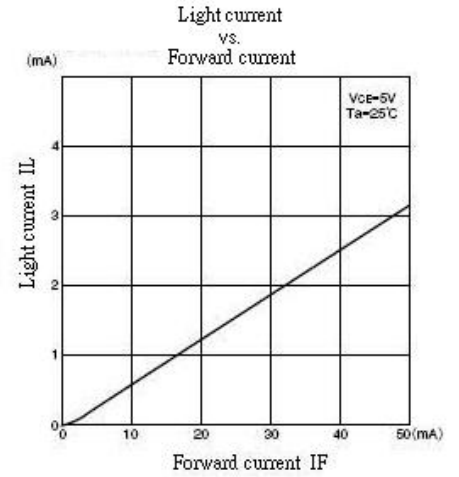
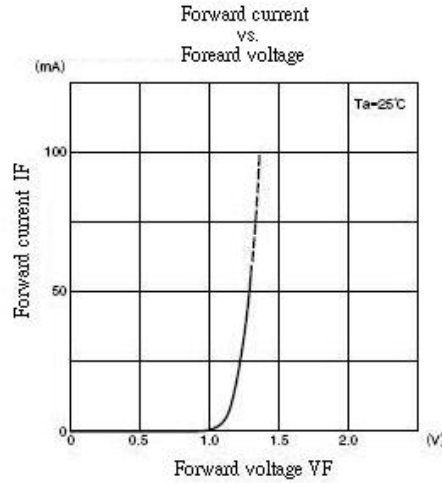
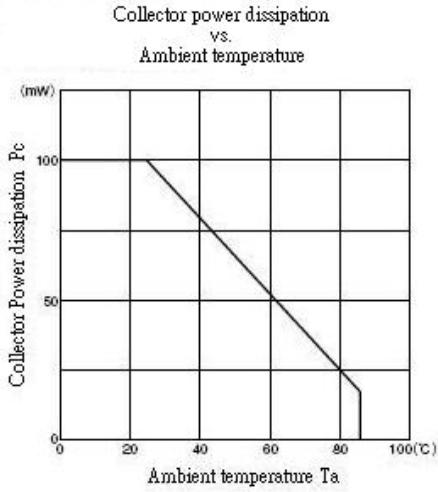
\*1. pulse width :  $t_w \leq 100\mu\text{sec}$ . Period :  $t = 10\text{msec}$

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

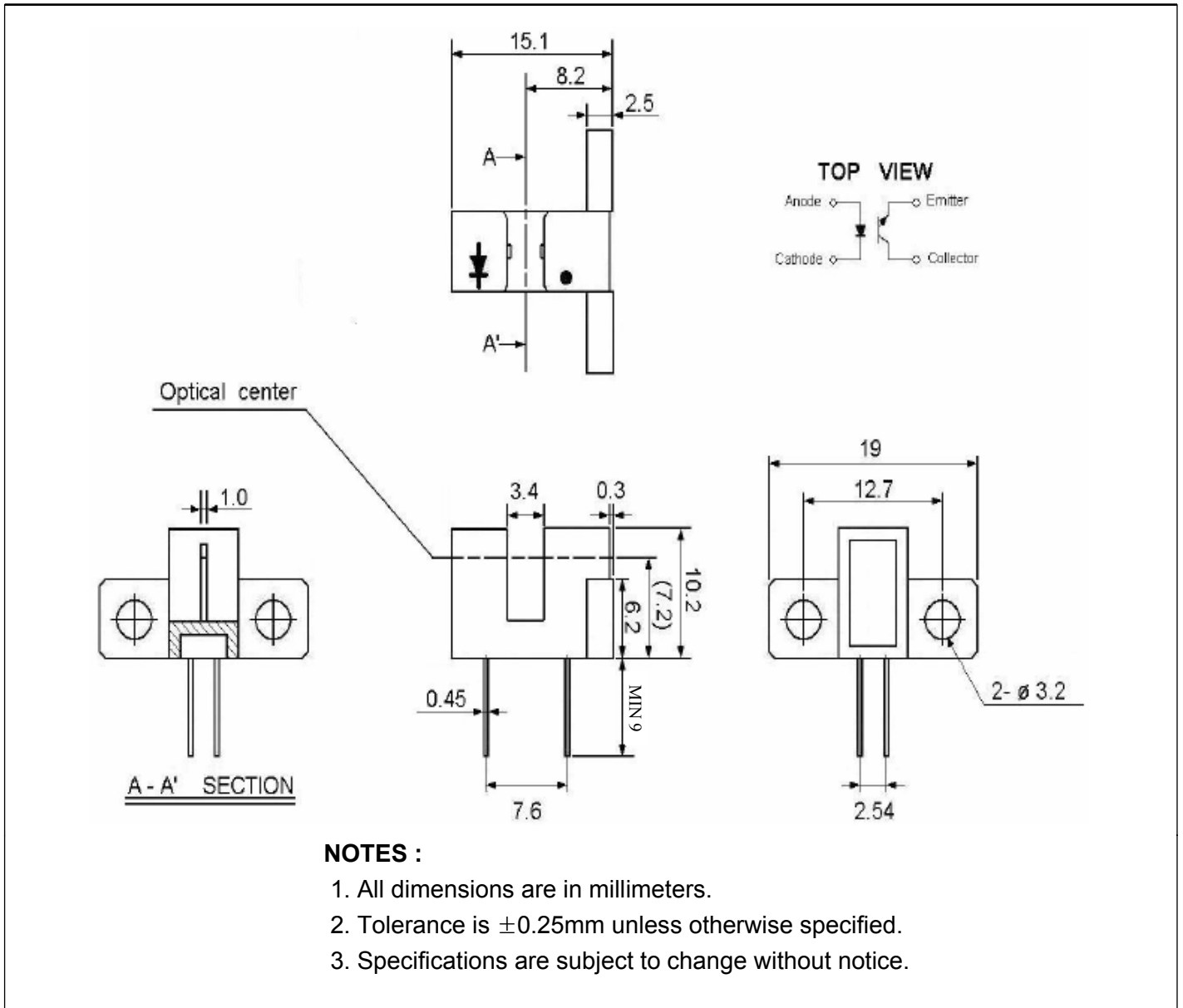
### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

| Item             |                        | Symbol               | Conditions   | Min. | Typ. | Max. | Unit |
|------------------|------------------------|----------------------|--|------|------|------|------|
| Input            | Forward voltage        | V <sub>F</sub>       | I <sub>F</sub> =20mA                                       | -    | 1.2  | 1.5  | V    |
|                  | Reverse current        | I <sub>R</sub>       | V <sub>R</sub> =5V   | -    | 0.01 | 10   | μA   |
|                  | Peak wavelength        | λ <sub>p</sub>       | I <sub>F</sub> =20mA                                       | -    | 940  | -    | nm   |
| Output           | Collector dark current | I <sub>CEO</sub>     | V <sub>CE</sub> =10V                                       | -    | -    | 0.1  | μA   |
| Transmission     | Light current          | I <sub>C</sub>       | I <sub>F</sub> =20mA, V <sub>CE</sub> =5V<br>(Non-shading) | 0.25 | -    | -    | mA   |
|                  | Leakage current        | I <sub>CEOD</sub>    | I <sub>F</sub> =20mA, V <sub>CE</sub> =5V<br>(Shading)     | -    | 0.5  | 10   | μA   |
|                  | C-E saturation voltage | V <sub>CE(sat)</sub> | I <sub>F</sub> =20mA, I <sub>C</sub> =0.1mA                | -    | -    | 0.4  | V    |
| Switching Speeds | Rise time              | t <sub>r</sub>       | V <sub>CC</sub> =5V, I <sub>C</sub> =2mA                   | -    | 6    | 30   | μsec |
|                  | Fall time              | t <sub>f</sub>       | R <sub>L</sub> =100Ω                                       | -    | 9    | 45   | μsec |



## DIMENSIONS



## APPLICATION CIRCUIT

