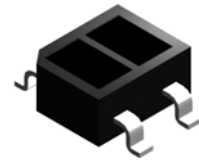


## Photo-Interrupter Reflect SMD Type

OI R34278

### Description

The construction of this device is to lay a 940nm Infrared LED facing a Phototransistor on the same axis. Employ reflection concept thus triggering a ON-OFF receiving signal. The most significant advantage of this product is it carries a function of a non-contact switch. It is free from any underlying mechanical stress in conventional switches.



### Features

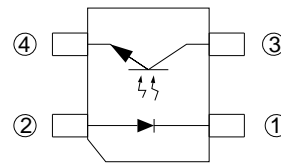
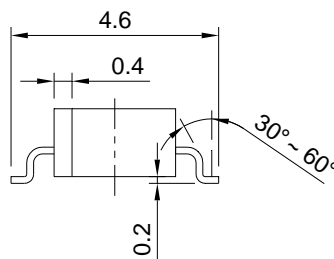
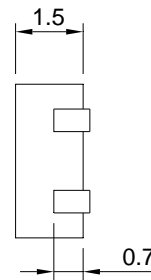
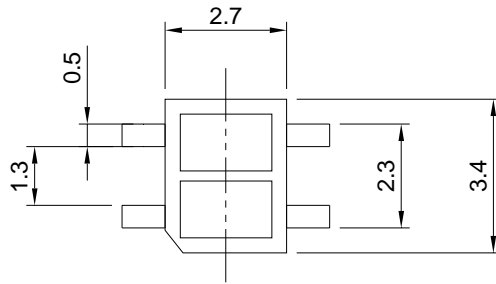
- Non contact switching
- Daylight blocking filter
- Emitter wavelength : 940nm
- Lead (Pb) – free soldering release

### Application

- Position sensor for shaft encoder
- Detection of opaque material
- Paper position sensor in copy machines

**Package Dimension:**

unit : mm



- |           |             |
|-----------|-------------|
| ① CATHODE | ③ COLLECTOR |
| ② ANODE   | ④ EMITTER   |

**Notes:**

1. All dimensions are millimeters.
2. Dimensional tolerance is +/- 0.2mm unless otherwise specified.
3. Specifications are subject to change without notice.

### Electro-Optical Characteristics (Ta=25°C)

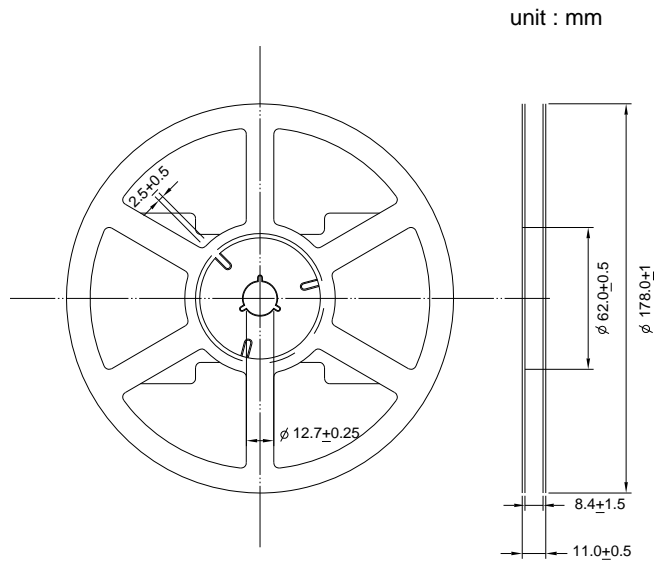
Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Emitting Diode	Forward Voltage	$V_F$	-	1.2	1.6	V	$I_F=20\text{mA}$
	Reverse Current	$I_R$	-	-	10	$\mu\text{A}$	$V_R=5\text{V}$
	Peak Wavelength	$\lambda_P$	-	940	-	nm	$I_F=20\text{mA}$
	View Angle	$2\ 1/2\ \theta$	-	110	-	Deg	$I_F=20\text{mA}$
Photo Transistor	Collector Dark Current	$I_{CEO}$	-	-	100	nA	$V_{CE}=10\text{V}$
Transfer Characteristic	C-E Saturation Voltage	$V_{CE(sat)}$	-	-	0.4	V	$I_C=2\text{mA}$ $E_e=1\text{mW/cm}^2$
	Collector Current	$I_C(ON)$	0.1	--	--	mA	$V_{CE}=5\text{V}$ $I_F=20\text{mA}$
	Rise Time	$t_r$	-	20	-	$\mu\text{sec}$	$V_{CE}=2\text{V}$
	Fall Time	$t_f$	-	20	-	$\mu\text{sec}$	$I_C=100\ \mu\text{A}$ $R_L=1\text{K}\Omega$

### Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Ratings	Unit
Emitting Diode	Power Dissipation	$P_d$	80	mW
	Reverse Voltage	$V_R$	5	V
	Forward Current	$I_F$	50	mA
	Peak Forward Current Pulse width $\leq 100\ \mu\text{s}$ , Duty cycle=1%	$I_{FP}$	1	A
Photo Transistor	Collector Power Dissipation	$P_C$	75	mW
	Collector Current	$I_C$	50	mA
	Collector-Emitter Voltage	$V_{CEO}$	30	V
	Emitter-Collector Voltage	$V_{ECO}$	5	V
Operating Temperature		$T_{opr}$	-25~+85	°C
Storage Temperature		$T_{stg}$	-40~+85	°C
Lead Soldering Temperature		$T_{sol}$	260	°C

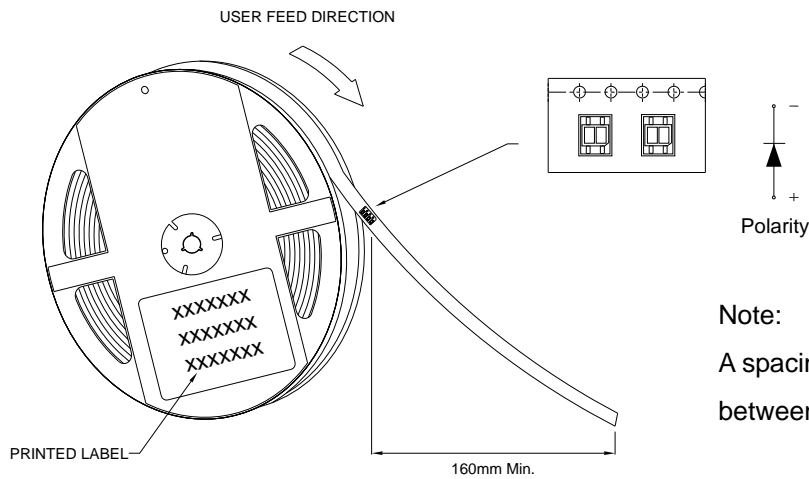
Note: Please take note the Absolute Maximum Rating values. Any operation beyond the specified ratings in this table will result degradation of life-span and may cause product to fail.

### Reel Dimension:



Note:

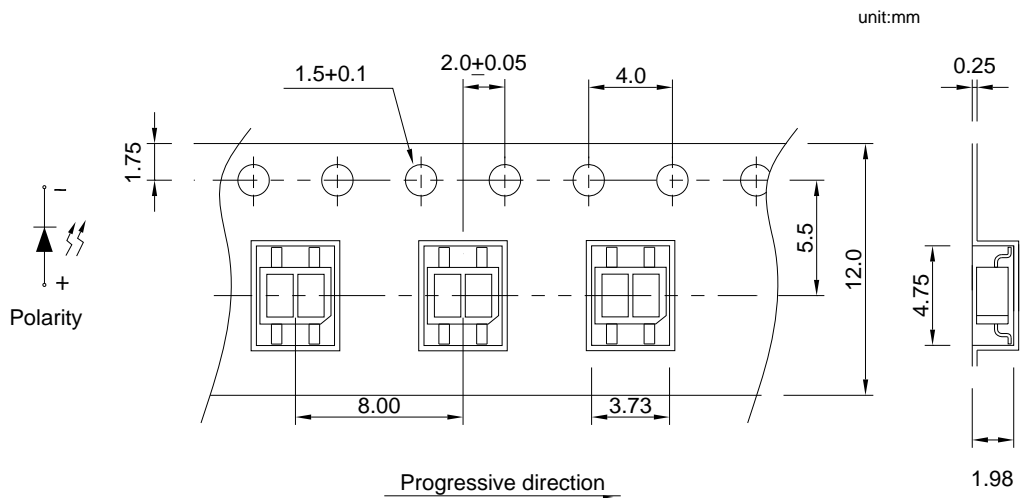
Available in 8mm carrier tape on 178mm diameter reels. (1000 pieces)



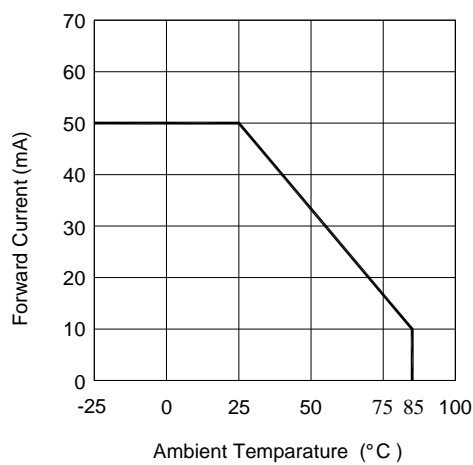
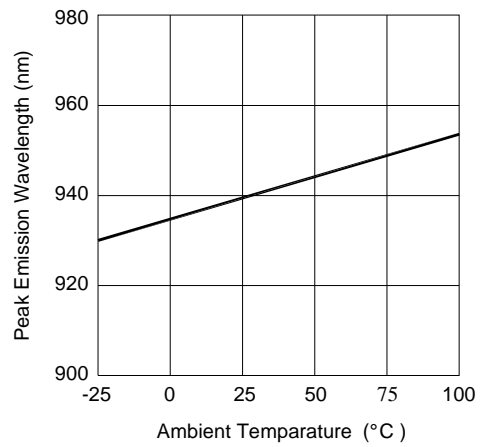
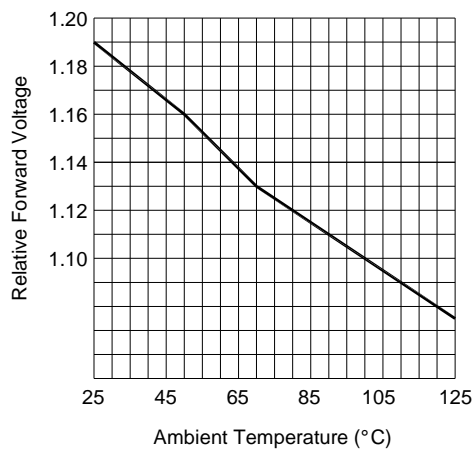
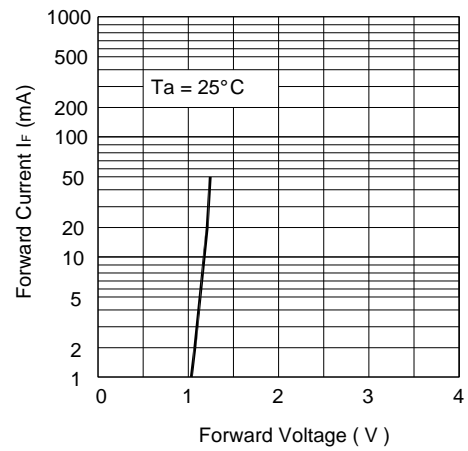
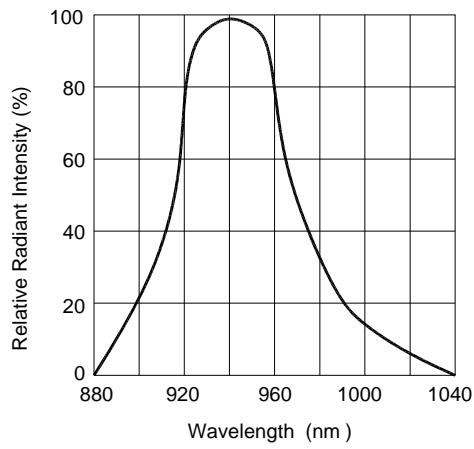
Note:

A spacing of approximately 160mm between the front edge of tape

### Tape Dimension:



## IR LED Optical Characteristics Curves



## Phototransistor Optical Characteristics Curves

