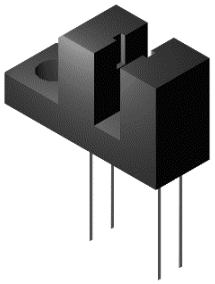
Photo-Interrupter Slot Type

OI S18317

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.



RoHS

pb-free

Features

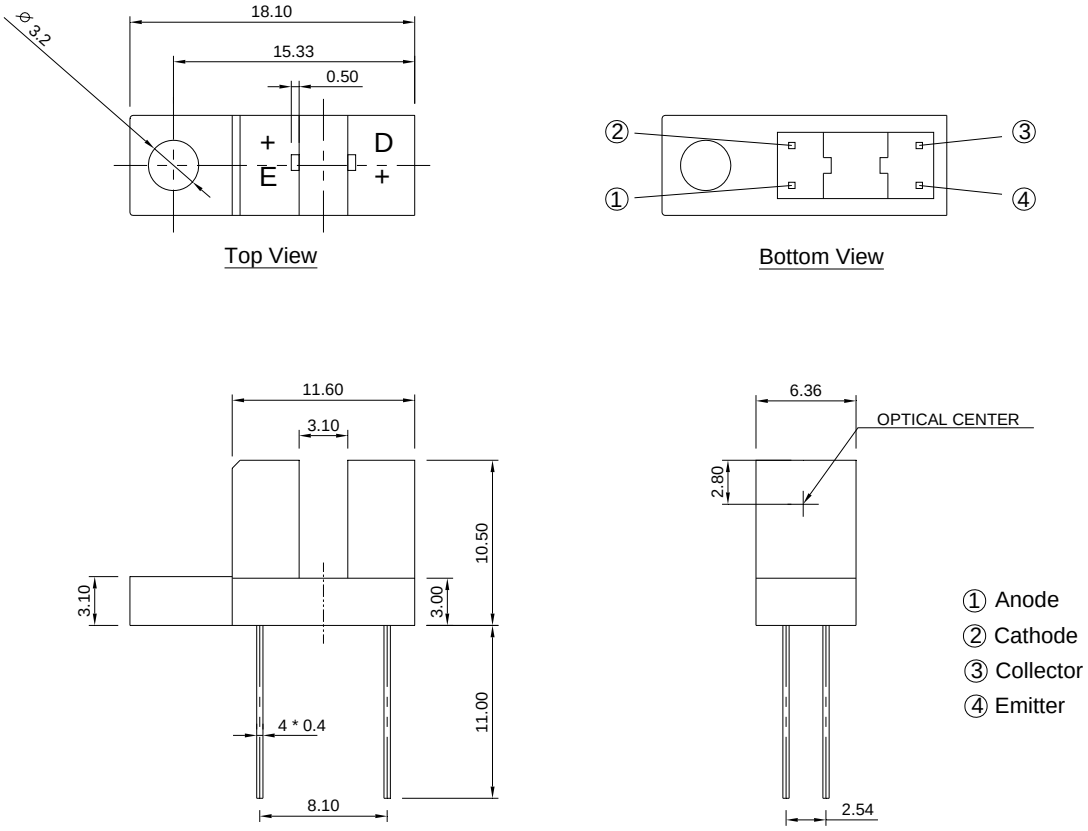
- Non contact switching
- Daylight blocking filter
- Emitter wavelength : 940nm
- Lead (Pb) – free soldering release

Application

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

Package Dimension:

unit: mm



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℃)

Parameter		Symbol	Min.	Typ.	Max.	Unit	Condition
Emitting Diode	Forward Voltage	V_F	-	1.2	1.6	V	I_F=20mA
	Reverse Current	I_R	-	-	10	μA	V_R=5V
	Peak Wavelength	λ_P	-	940	-	nm	I_F=20mA
	View Angle	$2\ 1/2\ \theta$	-	60	-	Deg	I_F=20mA
Photo Transistor	Collector Dark Current	I_{CEO}	-	-	100	nA	V_{CE}=10V
Transfer Characteristic	C-E Saturation Voltage	V_{CE}(sat)	-	-	0.4	V	I_C=2mA I_F=20mA
	Collector Current	I_C(ON)	0.9	4.0	15	mA	V_{CE}=5V I_F=10mA
	Rise Time	t_r	-	20	-	μsec	V_{CE}=5V
	Fall Time	t_f	-	20	-	μsec	I_C=1mA R_L=1KΩ

Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Ratings	Unit
Emitting Diode	Power Dissipation	Pd	80	mW
	Reverse Voltage	V_R	5	V
	Forward Current	I_F	50	mA
	Peak Forward Current Pulse width ≦100 μs, Duty cycle=1%	I_{FP}	1	A
Photo Transistor	Collector Power Dissipation	Pc	75	mW
	Collector Current	Ic	20	mA
	Collector-Emitter Voltage	Vceo	30	V
	Emitter-Collector Voltage	Veco	5	V
Operating Temperature		Topr	-25~+85	℃
Storage Temperature		Tstg	-40~+85	℃
Lead Soldering Temperature		Tsol	260	℃

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.