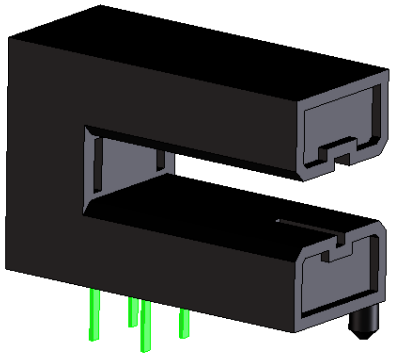
Photo Interrupter

KIT2009A

Description

The KIT2009A is a high performance transmissive type Photo Interrupter, combines high-output GaAs IRED with high sensitive phototransistor.
The KIT2009A is used in determining the absolute position of an encoder disk.



Features

- Higly sensitive photo transistor
- High speed response
- 2.7mm Gap

Applications

- Printers
- Copiers
- Fax

Absolute Maximum Ratings (T_{amb}=25℃, Unless otherwise specified)

Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit
Input	Forward Voltage	V_F	I_F=20mA	1.0	1.2	1.7	V
	Wavelength of Emission	λ		850	940	1000	nm
	Reverse Current	I_R	V_R=3V	-	-	10	μA
Output	Dark Current	I_{CEO}	V_{CE}=5.0V, I_F=0 mA E=0 lux	-	-	1	μA
Transfer Charac-teristics	Collector - Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=0.5 mA, I_F=20 mA	-	-	0.4	V
	Collector Current(2)	I_C1	V_{CC}=5.0V, I_F=20mA	0.5	-	15	mA
	Collector Current(3)	I_C2	V_{CC}=5.0V, I_F=20mA	-	-	0.05	mA

Electrical Characteristics (Tamb=25℃, Unless otherwise specified)

Operation is specified over the entire operating temperature / humidity range unless otherwise specified.

Operating Temperature	Topr	+5 to +45	℃
Operating Humidity (over Topr Range)	Hopr	5 ~ 95	%RH

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Note 2. Light beam uninterrupted condition : Unblocked is normal condition.
Note 3. Light beam interrupted condition : Blocked with a material opaque to the LED output.

See Figure 1. for Test circuit

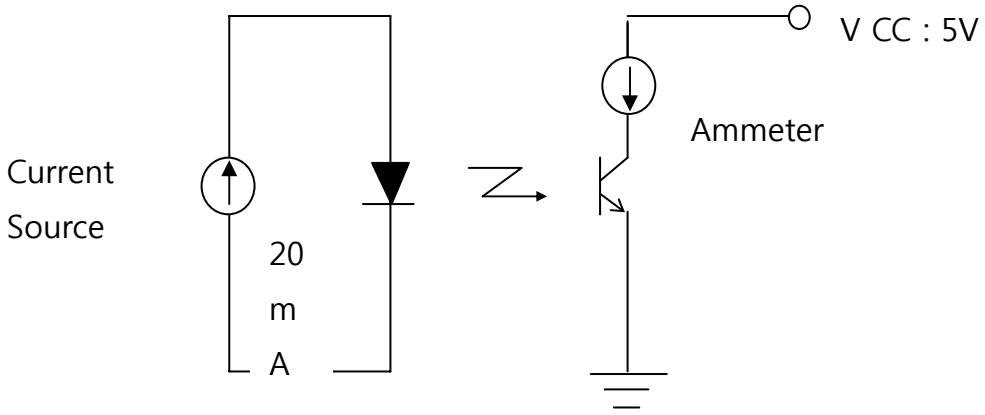

Fig 1. Test Circuit for IC

Switching as a Function of Position

1. If the motion of the interrupter flag is vertical(perpendicular to the horizontal aperture slot) then the output must switch between approximately -0.25 to +0.25mm with respect to the optical axis.
2. If the motion of the interrupter flag is horizontal(parallel to the horizontal aperture slot) then the output must switch between approximately -0.50 to +0.50mm with respect to the optical axis.

Packaging

1. The part package contain the following information:
   - Symbol
   - Date Code
   - Lot Code
   - The words "RoHS Compliant"

Cautions in Usage

1. Store and use where there is no exterior force that will cause change in shape.
2. Store and use where there is no Hydrogen Sulfide gas, or any other corrosive gas.
3. The bending or cutting of the lead should be done at room temperature, no force being applied on the package.
4. Solder the lead pin under conditions of the absolute maximum rating chart, and do not apply force on the lead pin after soldering.

Guarantee Period and Scope

1. Period
   One year after delivery to the desired place.
2. Scope
   Replacement of products will be done, if any problems lie in our company's products. However, we are not liable for your damage by lack of caution.

Others

Any doubts concerning this specification should be discussed fully by both parties.

Package Outline Dimensions