

67013

SLOTTED OPTICAL INTERRUPTER



**OPTOELECTRONIC PRODUCTS
DIVISION**

Features:

- Non-contact switching
- 0.130" wide slot
- 0.300" lead spacing

Applications:

- Position sensing
- Open sensing
- Rotation sensing

DESCRIPTION

The **67013** consists of an infrared emitting diode and an NPN silicon phototransistor mounted in a plastic housing on opposite sides of a 0.125" wide slot. Phototransistor switching takes place whenever an opaque object passes through the slot. The components are available screened in accordance with MIL-PRF-19500. Also available with mounting flange.

ABSOLUTE MAXIMUM RATINGS

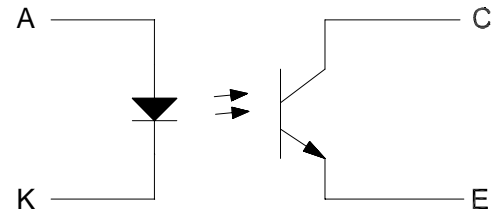
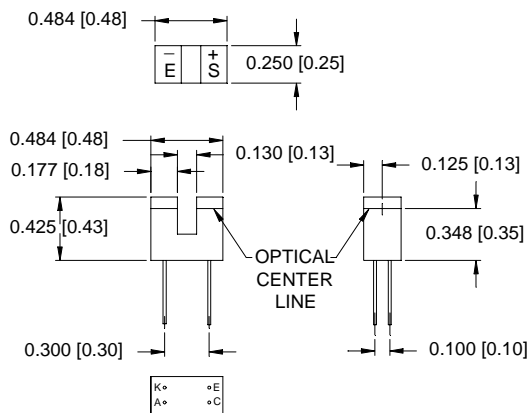
Continuous Forward Current.....	100 mA
Reverse Voltage.....	3 V
LED Power Dissipation	100 mW 1/
Collector – Emitter Voltage	30 V
Emitter – Collector Voltage	5 V
Power Dissipation	100 mW 1/
Storage Temperature	-55°C to + 100°C
Operating Temperature.....	-55°C to + 100°C
Lead Soldering Temperature (1/16 inch from case – 5 seconds).....	240°C

Notes:

- (1) Derate linearly @ 1.33 mW/°C for T_A > 25°C.

Package Dimensions

Schematic Diagram



NOTE: ALL LINEAR DIMENSIONS ARE IN INCHES (MILLIMETERS)

OPTICAL/ELECTRICAL CHARACTERISTICS

At 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Input Diode Forward Voltage	V_F			1.7	V	$I_F = 20\text{mA}$
Input Diode Reverse Current	I_R			100	mA	$V_R = 3\text{V}$

OUTPUT PHOTOTRANSISTOR

At 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector – Emitter Breakdown Voltage	$V_{(BR)CEO}$	30			V	$I_C = 1\text{ mA}$
Emitter – Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	$I_E = 100\mu\text{A}$
Collector – Emitter Dark Current	I_{CEO}			100	nA	$V_{CE} = 10\text{V}$

COUPLED CHARACTERISTICS

At 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector – Emitter Saturation Voltage	$V_{CE(SAT)}$			0.40	V	$I_C = 2\text{ mA}, I_F = 20\text{mA}$
Collector Current	$I_{C(ON)}$	4			mA	$V_{CE} = 5\text{V}, I_F = 20\text{mA}$

-001 Commercial

-101 with 100% screening