67013 SLOTTED OPTICAL INTERRUPTER

OPTOELECTRONIC PRODUCTS DIVISION

08/07/2014

Features:

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

Applications:

- Position sensing
- Open sensing
- Rotation sensing

DESCRIPTION

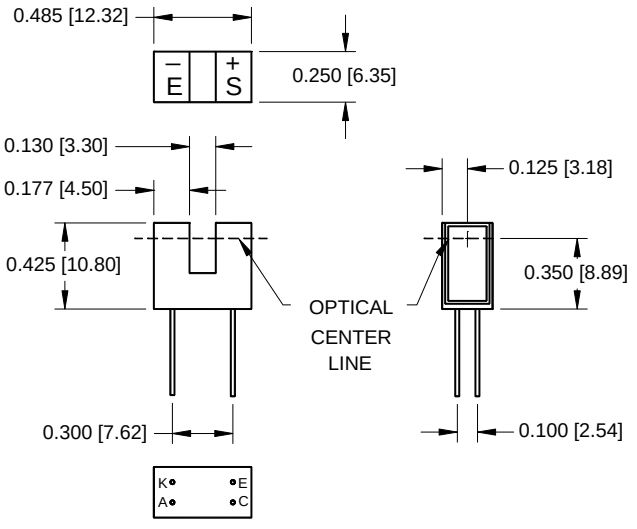
The ***67013*** consists of an infrared emitting diode and an NPN silicon phototransistor mounted in a plastic housing on opposite sides a 0.130” wide slot. Phototransistor switching takes place whenever an opaque object passes through the slot. The components are available screened in accordance with MIL-PRF-19500. Also available with mounting flange.

ABSOLUTE MAXIMUM RATINGS

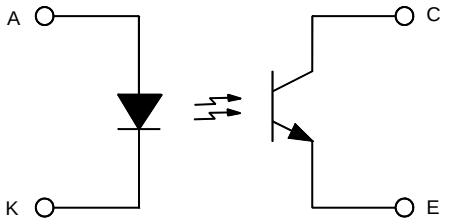
Continuous Forward Current	100 mA
Reverse Voltage	3 V
LED Power Dissipation	50 mW
Collector-Emitter Voltage	30 V
Emitter-Collector Voltage	5 V
Power Dissipation (Note 1)	50 mW
Storage Temperature	-55°C to +100°C
Operating Temperature	-55°C to +100°C
Lead Soldering Temperature (5 second, 1/16” from case)	240°C

Notes:
1. Derate linearly at the rate of 1.33 mW/°C above 25°C.

Package Dimensions



Schematic Diagram



ALL DIMENSIONS ARE IN INCHES (MILLIMETERS)
ALL TOLERANCES ARE ±0.005 [0.13] UNLESS OTHERWISE SPECIFIED

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OPTICAL/ELECTRICAL CHARACTERISTICS

T_A = 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 mA
Input Diode Reverse Current	I_R			10	µA	V_R = 3 V

OUTPUT PHOTOTRANSISTOR

T_A = 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 mA
Emitter-Collector Breakdown Voltage	$V_{(BR)ECO}$	5			V	I_E = 100 µA
Collector-Emitter Dark Current	I_{CEO}			100	nA	V_{CE} = 10 V

COUPLED CHARACTERISTICS

T_A = 25°C unless otherwise specified.

PARAMETER	SYMBOL	MIN	TYP	MAX	UNITS	TEST CONDITIONS
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$			0.4	V	I_C = 2 mA, I_F = 20 mA
Collector Current	$I_{C(ON)}$	4			mA	V_{CE} = 5 V, I_F = 20 mA

SELECTION GUIDE

PART NUMBER	PART DESCRIPTION
67013-001	Commercial
67013-101	Screened

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