



## SDP8314-301

### SDP Series Optoschmitt Detector, Side-looking Plastic Package

#### Features

- Side-looking plastic package
- 55 ° (nominal) acceptance angle
- TTL/LSTTL/CMOS compatible
- Open collector output
- Buffer (SDP8304) or inverting (SDP8314) logic available
- High noise immunity output
- Mechanically and spectrally matched to SEP8506 and SEP8706 infrared emitting diodes

#### Description

The SDP8304/8314 series consists of a high speed IC molded in a side-looking black plastic package to minimize the effect of visible ambient light. The detector incorporates a Schmitt trigger which provides pulse shaping and hysteresis for noise immunity. Output rise and fall times are independent of rate of change of incident light. Detector sensitivity has been internally temperature compensated. The output stage is an open collector NPN transistor. This configuration allows the sensor to interface with circuit elements driven by supply voltages other than the Vcc supply. For additional output configuration options refer to SDP8004/8014 and SDP8604/8614.

Device Polarity:

Buffer - Output is HI when incident light intensity is above the turn-on threshold level.

Inverter - Output is LO when incident light intensity is above the turn-on threshold level.



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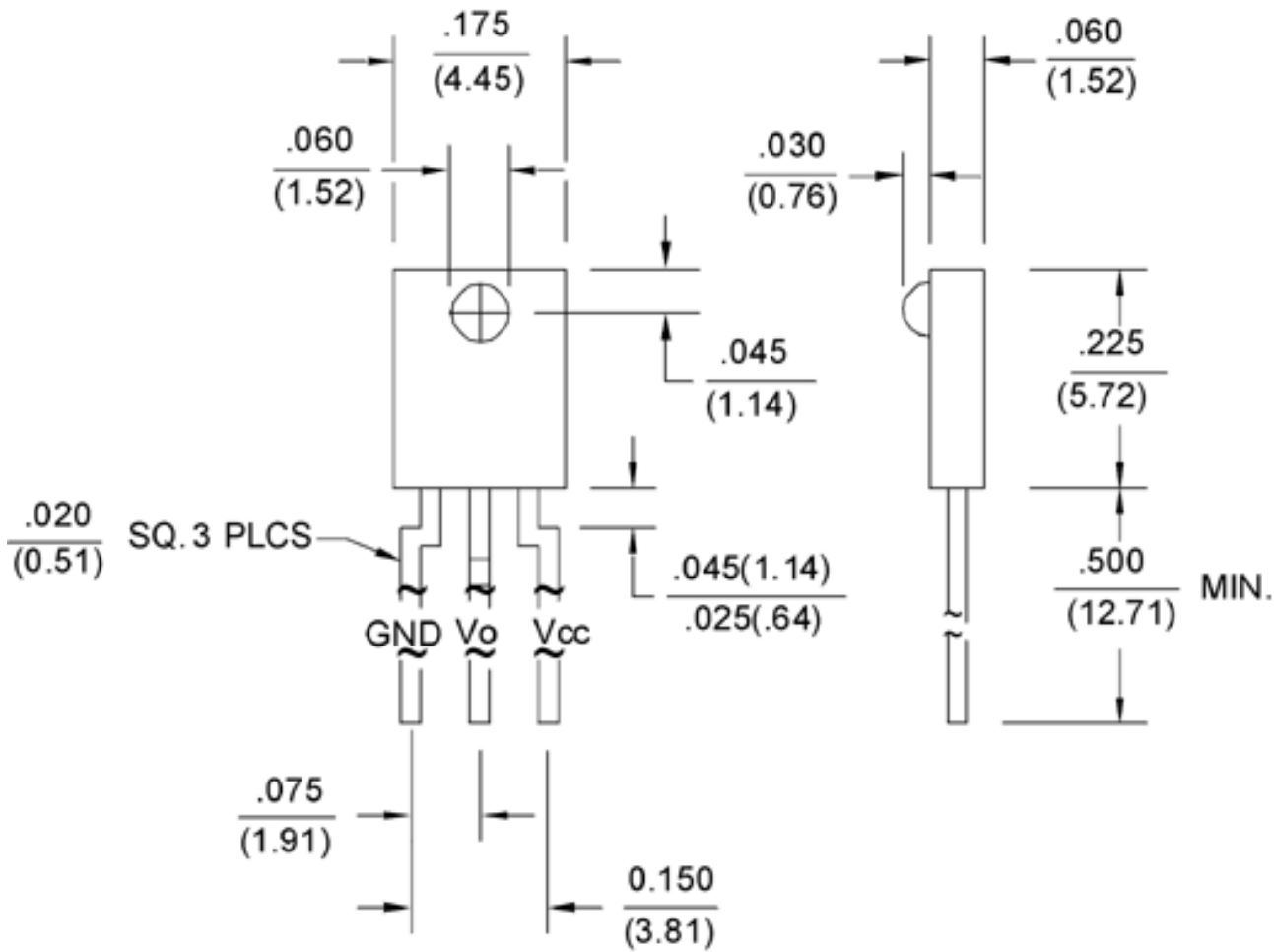
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Product Specifications	
Product Type	IR Component
Angular Response (Degree)	50
Turn-on Threshold Irradiance	0.37 mW/cm <sup>2</sup> maximum
Output	Open-Collector
Output Logic	Inverter
Package Style	Side-Looking
Package Components	Plastic
Package Color	Black
Operating Temperature Range	-40 °C to 85 °C [-40 °F to 185 °F]
Hysteresis (H)	33% to 67%
Operating Supply Voltage	4.5 V to 12.0 V
Supply Voltage	12.0 Vdc
High Level Output Current	100 µA maximum
Low Level Output Voltage	0.4 V maximum
Low Level Output Current	16 mA
Applied Output Voltage	35 V
Operating Point Temperature Coefficient	-0.76 %/°C
Output Rise Time	7.0 ns
Output Fall Time	7.0 ns
Propagation Delay, Low-High,High-Low	5.0 µs
Clock Frequency	100 kHz
Duration of Output Short Vcc or Ground	1.0 second
Irradiance	25 mW/cm <sup>2</sup>
Comment	Output is LO when incident light intensity is above the turn-on threshold level.
Availability	Global
Product Name	Optoschmitt Detector
Supply Current max.	15 mA @ 25 °C

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#### **⚠ WARNING**

#### **PERSONAL INJURY**

DO NOT USE these products as safety or emergency stop devices, or in any other application where failure of the product could result in personal injury.

**Failure to comply with these instructions could result in death or serious injury.**

 **WARNING**

**MISUSE OF DOCUMENTATION**

- The information presented in this product sheet (or catalog) is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

**Failure to comply with these instructions could result in death or serious injury.**

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