



## SDP8610-003

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

#### Features

- Side-looking plastic package
- 55 ° (nominal) acceptance angle
- Wide sensitivity ranges
- TTL/LSTTL/CMOS compatible
- Buffer (SDP8600/8601/8602) or inverting (SDP8610/8611/8612) logic available
- Three different lead spacing arrangements
- Mechanically and spectrally matched to SEP8506 and SEP8706 infrared emitting diodes

#### Description

The SDP86XX series is a family of single chip Optoschmitt IC detectors molded in a side-looking black plastic package to minimize the effect of visible ambient light. The photodetector consists of a photodiode, amplifier, voltage regulator, Schmitt trigger and an NPN output transistor with a 10 kOhm (nominal) pull-up resistor. Output rise and fall times are independent of the rate of change of incident light. Detector sensitivity has been internally temperature compensated. Flexibility of use is enhanced by a choice of three different lead configurations; in-line (SDP8601/8611), 0.05 in (1.27 mm) offset pin circle (SDP8600/8610) and 0.10 in (2.54 mm) offset center lead (SDP8602/8612).

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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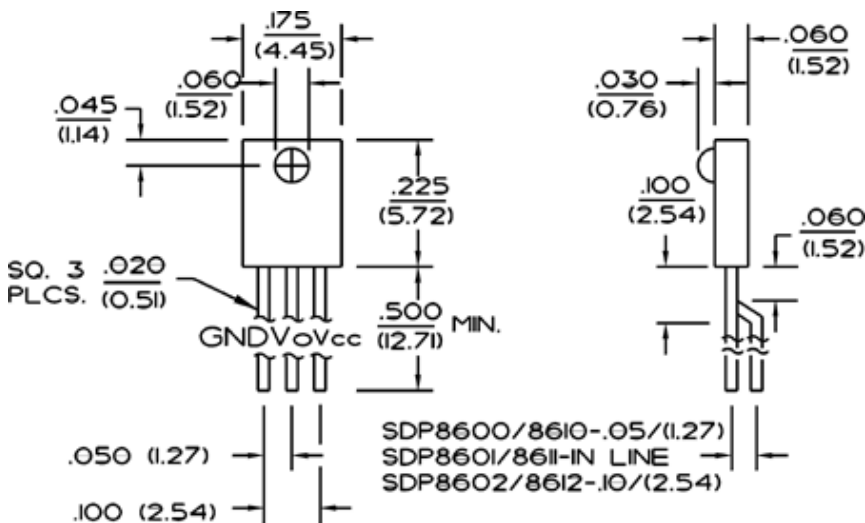
Product Specifications	
Product Type	IR Component
Angular Response (Degree)	50
Turn-on Threshold Irradiance	0.6 mW/cm <sup>2</sup> maximum
Output	10 kOhm Pull-up
Output Logic	Inverter
Package Style	Side-Looking
Package Components	Plastic
Package Color	Black
Power Dissipation	100 mW
Operating Temperature Range	-40 °C to 85 °C [-40 °F to 185 °F]
Hysteresis (H)	5% to 30%
Supply Voltage	12.0 Vdc
High Level Output Voltage	2.4 V minimum
Low Level Output Voltage	0.4 V maximum
Internal Pull-up Resistor	5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.

<b>Output Rise Time</b>	60 ns
<b>Output Fall Time</b>	15 ns
<b>Propagation Delay, Low-High,High-Low</b>	5.0 $\mu$ s
<b>Clock Frequency</b>	100 kHz
<b>Duration of Output Short Vcc or Ground</b>	1.0 second
<b>Comment</b>	Output is LO when incident light intensity is above the turn-on threshold level.
<b>Availability</b>	Global
<b>Product Name</b>	Optoschmitt Detector
<b>Supply Current max.</b>	12 mA @ 25 °C
<b>Operate Point</b>	62 $\mu$ W/cm <sup>2</sup> @ 25 °C
<b>Output Current max.</b>	18 mA



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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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