

Representative photograph, actual product appearance may vary.

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SD5600-001

SD Series Optoschmitt Detector, TO-46 Metal Can Package

Features

- TO-46 metal can package
- 6 ° (nominal) acceptance angle
- High noise immunity output
- TTL/LSTTL/CMOS compatible
- Buffer (SD5600) or inverting (SD5610) logic available
- Mechanically and spectrally matched to SE3450/5450, SE3455/5455 and SE3470/5470 infrared emitting diodes

Description

The SD5600/5610 series is a family of single chip Optoschmitt IC detectors mounted in a TO-46 metal can package. The photodetector consists of a photodiode, amplifier, voltage regulator, Schmitt trigger and an NPN output transistor with 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. The TO-46 package is ideally suited for operating in hostile environments.

Device Polarity:

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

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

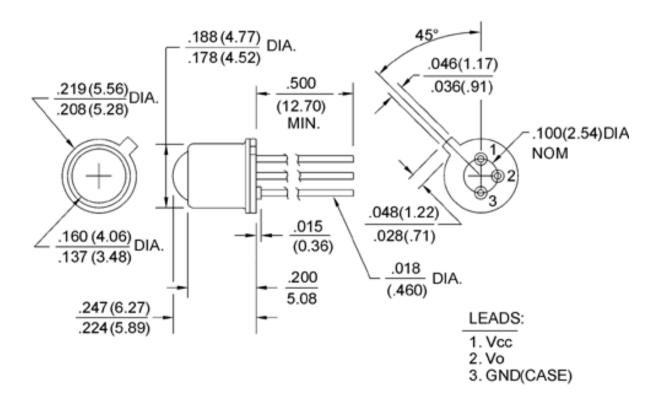
Honeywell

SD5600-001 SD Series Optoschmitt Detector, TO-46 Metal Can Package

Product TypeIR ComponentAngular Response (Degree)12Turn-on Threshold Irradiance2.5 mW/cm² maximumOutput10 kOhm Pull-upOutput LogicBufferPackage StyleT0-46, Dome LensedPackage ComponentsMetalOperating Temperature Range-40 °C to 100 °C [-40 °F to 212 °F]Dark Current250 nAHysteresis (H)5% to 30%Operating Supply Voltage4.5 V to 16.0 VSupply Voltage16.0 VdcHigh Level Output Voltage0.4 V maximumOperating Point Temperature Coefficient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Product Specifications	
Turn-on Threshold Irradiance2.5 mW/cm² maximumOutput10 kOhm Pull-upOutput LogicBufferPackage StyleT0-46, Dome LensedPackage ComponentsMetalOperating Temperature Range-40 °C to 100 °C [-40 °F to 212 °F]Dark Current250 nAHysteresis (H)5% to 30%Operating Supply Voltage4.5 V to 16.0 VSupply Voltage16.0 VdcHigh Level Output Voltage0.4 V maximumOperating Point Temperature Coeffient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Product Type	IR Component
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Package ComponentsMetalOperating Temperature Range-40 °C to 100 °C [-40 °F to 212 °F]Dark Current250 nAHysteresis (H)5% to 30%Operating Supply Voltage4.5 V to 16.0 VSupply Voltage16.0 VdcHigh Level Output Voltage0.4 V maximumOperating Point Temperature Coefficient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Output Logic	Buffer
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Hysteresis (H)5% to 30%Operating Supply Voltage4.5 V to 16.0 VSupply Voltage16.0 VdcHigh Level Output Voltage2.4 V minimumLow Level Output Voltage0.4 V maximumOperating Point Temperature Coeffient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Operating Temperature Range	-40 °C to 100 °C [-40 °F to 212 °F]
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High Level Output Voltage2.4 V minimumLow Level Output Voltage0.4 V maximumOperating Point Temperature Coeffient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Operating Supply Voltage	4.5 V to 16.0 V
Low Level Output Voltage0.4 V maximumOperating Point Temperature Coeffient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1 0 second	Supply Voltage	16.0 Vdc
Operating Point Temperature Coeffient-0.76 %/°CInternal Pull-up Resistor5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1 0 second	High Level Output Voltage	2.4 V minimum
I is a relation5.0 kOhm min., 10.0 kOhm typ., 20.0 kOhm max.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1.0 second	Low Level Output Voltage	0.4 V maximum
Internal Pull-up Resistormax.Output Rise Time60 nsOutput Fall Time15 nsClock Frequency100 kHzDuration of Output Short Vcc or1 0 second	Operating Point Temperature Coeffient	-0.76 %/°C
Output Fall Time 15 ns Clock Frequency 100 kHz Duration of Output Short Vcc or 1 0 second	Internal Pull-up Resistor	
Clock Frequency 100 kHz Duration of Output Short Vcc or 1.0 second	Output Rise Time	60 ns
Duration of Output Short Vcc or	Output Fall Time	15 ns
- I U Second	Clock Frequency	100 kHz
Ground	-	1.0 second
CommentOutput is HI when incident light intensity is above the turn-on threshold level.	Comment	
Availability Global	Availability	Global
Product Name Optoschmitt Detector	Product Name	Optoschmitt Detector
Supply Current max. 12.0 - 15.0 mA @ 25 °C	Supply Current max.	12.0 - 15.0 mA @ 25 °C
Output Current max. 18 mA	Output Current max.	18 mA

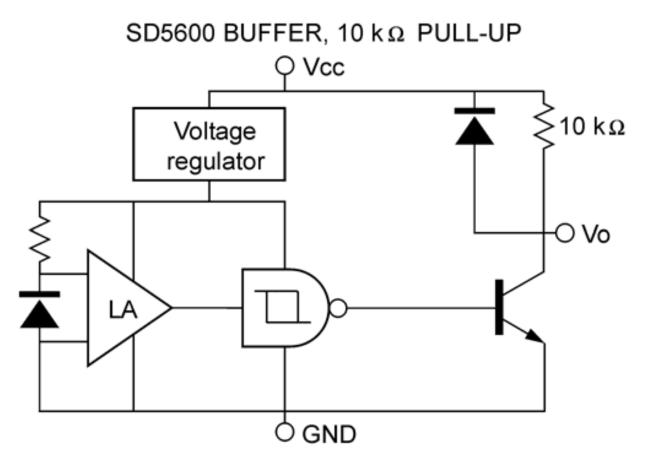
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🛦 WARNING

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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