



*Representative photograph, actual product appearance may vary.*

*Due to regional agency approval requirements, some products may not be available in your area. Please contact your regional Honeywell office regarding your product of choice.*

## HOA0961-N51

**HOA Series Infrared Transmissive Optoschmitt Sensor, Diode Output, No Mounting Tab, Plastic Package**

### Features

- Direct TTL interface
- Accurate position sensing
- Four mounting configurations
- Buffer or inverting logic available
- Choice of detector aperture
- 0.125 in [3.18 mm] slot width

### Description

The HOA096X/097X series consists of an infrared emitting diode facing an Optoschmitt detector encased in a black thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. The photodetector consists of a photodiode, amplifier, voltage regulator, Schmitt trigger and an NPN output transistor with 10 kOhm (nominal) pull-up resistor. The user can choose from available options: (1) detector aperture size, (2) mounting tab configuration, and (3) housing material.

The HOA096X series utilizes an IR transmissive polysulfone housing which features smooth optical faces without external aperture openings; this feature is desirable when aperture blockage from airborne contaminants is a possibility. The HOA097X series employs an opaque polysulfone housing with aperture openings for use in applications where maximum rejection of ambient light is important and in situations in which maximum position resolution is desired. The HOA096X/097X series employs plastic molded components. For additional component information see SEP8506 and SDP8600.

Housing material is polysulfone. Housings are soluble in chlorinated hydrocarbons and ketones. Recommended cleaning agents are methanol and isopropanol.

Device Polarity:

Buffer - Output is LO when optical path is blocked.

Inverter - Output is HI when optical path is blocked.



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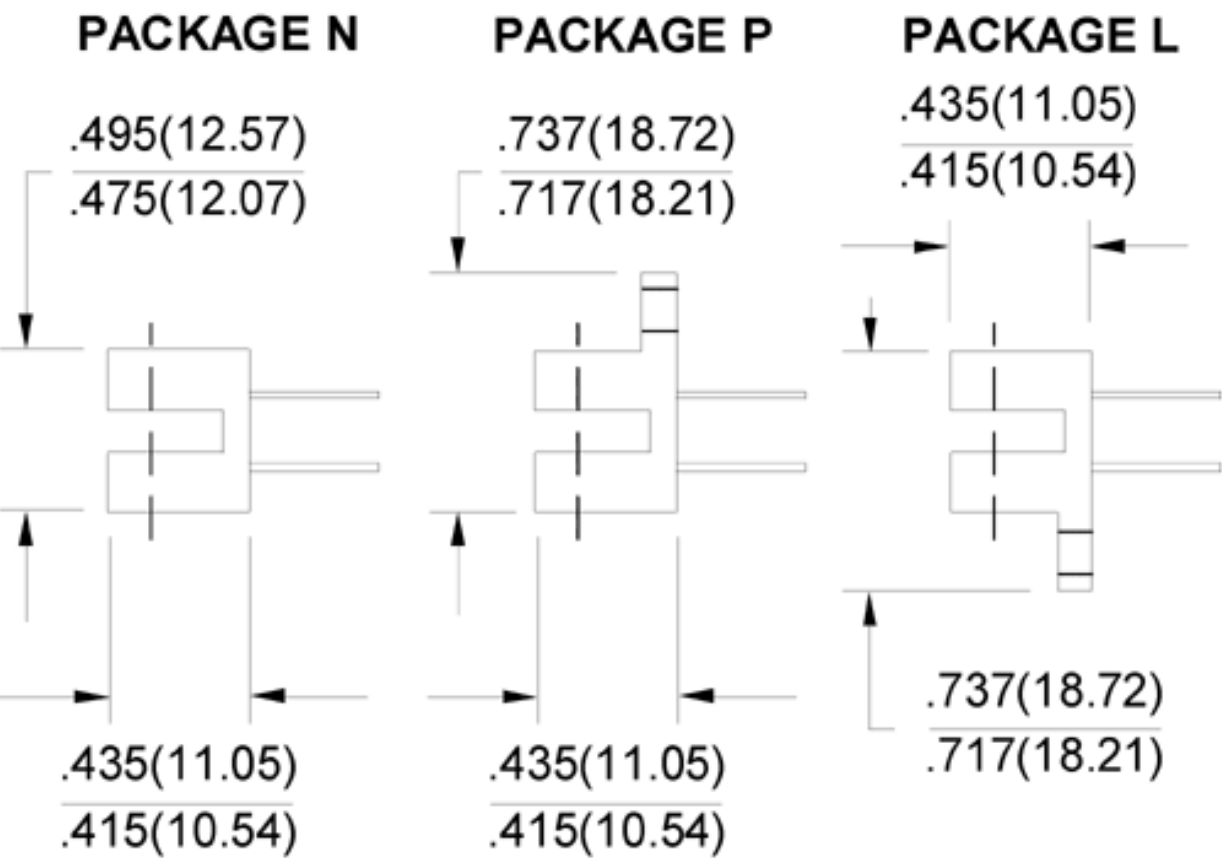
| Product Specifications                      |                                               |
|---------------------------------------------|-----------------------------------------------|
| <b>Product Type</b>                         | IR Switch                                     |
| <b>Output</b>                               | 10 kOhm Pull-up                               |
| <b>Output Logic</b>                         | Buffer                                        |
| <b>Mounting Configuration</b>               | No Mounting Tab                               |
| <b>Package Components</b>                   | Plastic                                       |
| <b>Package Color</b>                        | Black                                         |
| <b>Continuous Forward Current</b>           | 50 mA                                         |
| <b>Forward Voltage</b>                      | 1.6 V                                         |
| <b>Reverse Breakdown Voltage</b>            | 3 V                                           |
| <b>Reverse Current</b>                      | 10 $\mu$ A                                    |
| <b>Maximum Trigger Current</b>              | 20 mA                                         |
| <b>Housing Material</b>                     | Polysulfone, Opaque                           |
| <b>Power Dissipation</b>                    | 100 mW                                        |
| <b>Operating Temperature Range</b>          | -40 °C to 70 °C [-40 °F to 158 °F]            |
| <b>Collector-Emitter Saturation Voltage</b> | 0.4 V                                         |
| <b>Hysteresis (H)</b>                       | 10%                                           |
| <b>Operating Supply Voltage</b>             | 4.5 V to 10 V                                 |
| <b>High Level Output Voltage</b>            | 2.4 V minimum                                 |
| <b>High Level Supply Current</b>            | 2.0 mA to 10 mA                               |
| <b>Low Level Output Voltage</b>             | 0.4 V maximum                                 |
| <b>Low Level Supply Current</b>             | 4.0 mA to 12 mA                               |
| <b>Internal Pull-up Resistor</b>            | 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>IREDD Trigger Current</b>                | 20 mA                                         |

|                 |                                                                                  |
|-----------------|----------------------------------------------------------------------------------|
| Comment         | Output is LO when incident light intensity is above the turn-on threshold level. |
| Availability    | Global                                                                           |
| Product Name    | Optoschmitt Sensor                                                               |
| Sensor Aperture | 1,52 mm x 0,25 mm [0.060 in x 0.010 in]                                          |
| Slot Width      | 3,18 mm [0.125 in]                                                               |

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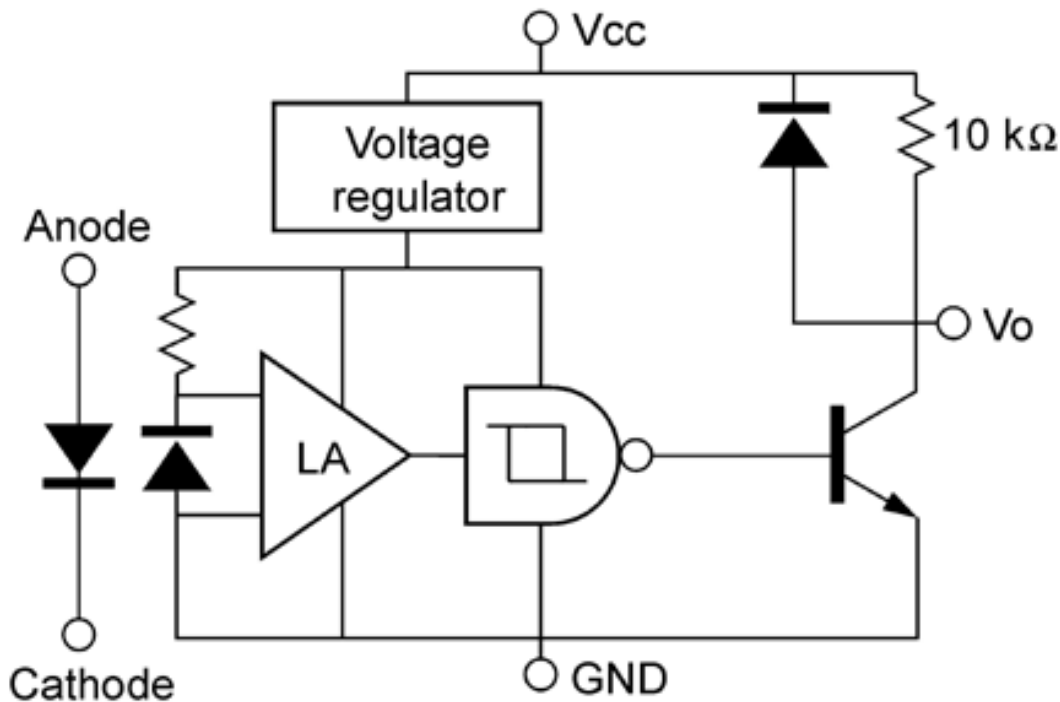


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## HOA09X1 BUFFER, 10 k $\Omega$ PULL-UP



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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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