



### HOA1870-031



*Actual product appearance may vary.*

#### HOA Series Transmissive Sensor, Transistor Output, Metal Can Packaged Components

#### Features

- Choice of phototransistor or photodarlington output
- Accurate position sensing
- 0.070 in [1.78 mm] slot width
- 18.0 in [457 mm] min. 22 AWG UL 1007 wire leads

#### Description

The HOA1870 series consists of an infrared emitting diode facing an NPN silicon phototransistor (HOA1870-031) or photodarlington (HOA1870-033) encased in a black thermoplastic housing. Detector switching takes place whenever an opaque object passes through the slot between emitter and detector. A minimum of 18.0 in (457 mm) lead wires provides alternate electrical connection when PC board mounting is not possible. This device is ideal for use in applications in which maximum position resolution is desired. Both emitter and detector have a 0.006 in (0.152 mm) x 0.040 in (1.02 mm) vertical aperture. The HOA1870 series employs plastic molded components. For additional component information see SEP8506, SDP8406 and SDP8106.

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

Wire color code and functions are:

- Orange - IRED anode
- White - Detector Collector
- Green - IRED Cathode
- Blue - Detector Emitter

| Product Specifications               |   |
|--------------------------------------|---|
| Series Name                          | Transmissive Sensor                     |
| Product Type                         | IR Switch                               |
| On-State Collector Current           | 0.30 mA                                 |
| Output                               | Transistor                              |
| Package Components                   | Plastic                                 |
| Package Color                        | Black                                   |
| Forward Current                      | 20 mA                                   |
| Continuous Forward Current           | 50 mA                                   |
| Forward Voltage                      | 1.6 V                                   |
| Reverse Breakdown Voltage            | 3 V                                     |
| Reverse Current                      | 10 $\mu$ A                              |
| Housing Material                     | Polycarbonate                           |
| Rise and Fall Time                   | 15 $\mu$ s                              |
| Power Dissipation                    | 100 mW                                  |
| Operating Temperature Range          | -40 °C to 85 °C [-40 °F to 185 °F]      |
| Dark Current                         | 100 nA                                  |
| Collector DC Current                 | 30 mA                                   |
| Collector-Emitter Breakdown Voltage  | 30 V                                    |
| Emitter-Collector Breakdown Voltage  | 5 V                                     |
| Collector-Emitter Saturation Voltage | 0.4 V                                   |
| Detector Color                       | White                                   |
| IRED Anode Color                     | Orange                                  |
| IRED Cathode Color                   | Green                                   |
| Detector Emitter Color               | Blue                                    |
| Availability                         | Global                                  |
| Sensor Aperture                      | 1,02 mm x 0,15 mm [0.040 in x 0.006 in] |
| Slot Width                           | 1,78 mm [0.070 in]                      |