Isolated Output Inductive Proximity Sensor

Evaluation Board Model: UIPS1

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Quick Selection Guide			
Technology:	Inductive. Responsive to metal proximity.	Sensing Distance:	About 4 mm
Current Supply:	None on custom	Voltage Supply:	+2.2V to +16V 5 µA max
Output Type:	NPN	Output	Normally Closed (NC)
Connection:	Solder Pads	Package/Case	FR4 PCB

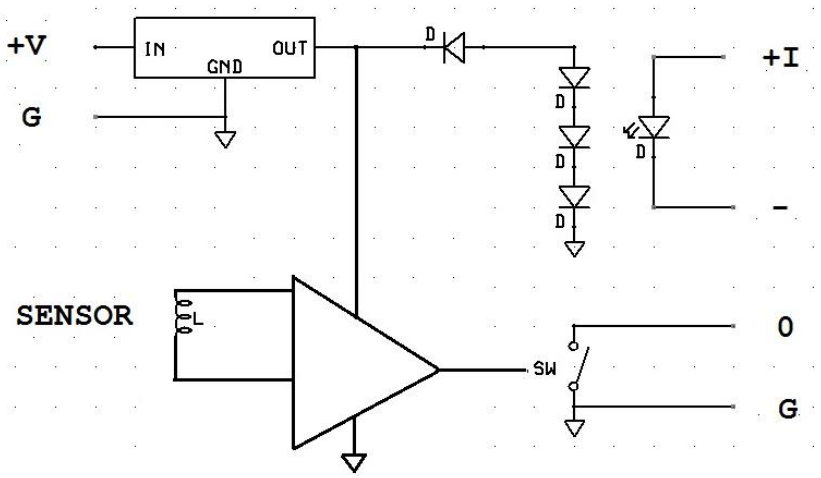
Description:

UIPS1 series operates at the industry's lowest operating current (2 µA) level and lowest power supply voltage levels (+2.2V to +16V), making it ideal for portable/battery operated applications. The low minimum operating voltage of +2.2V also makes this sensor directly compatible with most types of computers for portable robotics, motor controls, and automation. Utilizing CMOS IC sensor technology, this sensor provides excellent results, even with difficult-to-detect objects, e.g. small or thin parts, or bright metals. Normally Closed (NC) or sensor output functions is available utilizing NMOS switching.

PATENTED
Patent No.: USA 9,140,579

A joint product with Mirow Sensors, Inc.
www.MirowSensors.com

Wiring Diagram:



MERCURY www.MercuryUnited.com
U.S.A.: TEL (1)-909-466-0427, e-mail: sales-us@MercuryUnited.com

Specifications: Ta=+25°C unless otherwise specified

Package / Case	Open FR4 board
Target	24 x 24 x 1 mm Aluminum. See correction factor table below for other metals. Ferrous metal: The sensing distance decreases with ferrous or high permittivity metal.
Correction Factors Note 1	Metal / Correction Factors Aluminum: 1.00 Copper: 0.89 Brass: 0.88 Stainless steel: 0.63 Iron: 0.40
Power supply voltage (Operating Voltage Range)	+2.2 ~ +16 V D.C.
Power Supply Current Consumption	5 µA max.
Output Typesnote 2	NC (Normally Closed)
Shielding	None.
Output Voltage	27V max.
Output Leakage Current	2 µA max.
Output Load Current	250 mA max.
Output Voltage Drop	0.4 V max.
Sensing Distancenote 3	4 mm typ. at +25ºC
Response Frequency	5 KHz (200 µ sec.) typical
Hysteresis	Yes.
Protection Circuit	None.
Ambient Humidity	Operating: 35% to 95%, Storage: 35% to 95%
Temperature Influence	±10% typical over -25°C to +70°C Referenced to sensing distance at +23°C
Supply Voltage Influence	±1% max. of sensing distance in rated voltage range

Operating Temperature Range	-25°C to +70°C
Storage Temperature Range	-40°C to 85°C (with no icing or condensation)
Ingress Protection	N/A. Option: Conformal coating.
Termination Style	Open pads.
Indicator	No indicator

Note 1 **Correction Factors** -A percentage of the rated operating distance (Al) that represents the operating distance for targets constructed from materials other than Aluminum. Deviations maybe due to variations in the oscillator frequency, alloy compositions, purity & target geometry.

Note 2 **Normally Closed ("NC"):** The output is **OFF** when the target is detected by the sensor.
Normally Open ("NO"): The output is **ON** when the target is detected by the sensor.

Note 3 **Sensing Distance**: A distance at which the target approaching the sensing face, along the reference axis, causes the output signal to change.

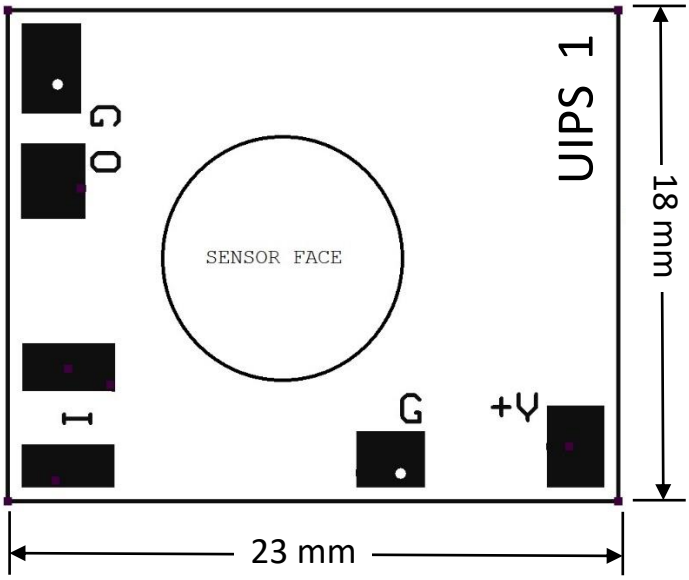
Absolute Maximum Ratings

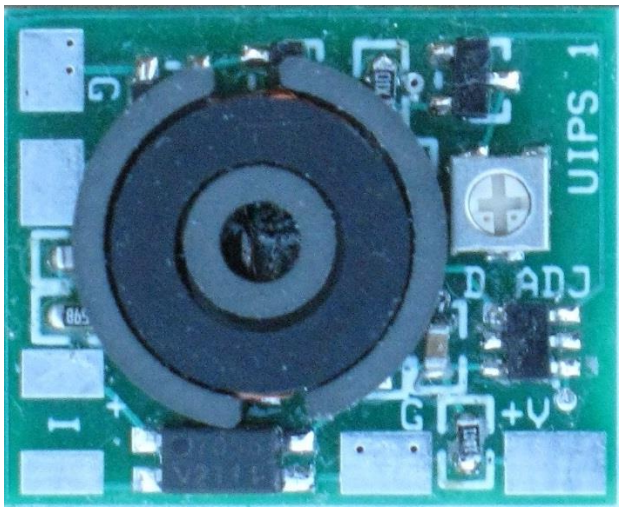
Power Supply Voltage V_{DD}	0 V min;+18 V max. D.C.
Output Voltage	0 V min.; +30 V max.
Output Current	0.5 A max.
Temperature	-40°C min.; +85°C max.

How to Order:

Ordering Code: UIPS1

Outline Dimensions and Pad Wiring (mm) Height: 7.6(H) mm





Warranty

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U.S.A.: TEL (1)-909-466-0427, e-mail: sales-us@MercuryUnited.com