Honeywell

Honeywell Sensing and Control

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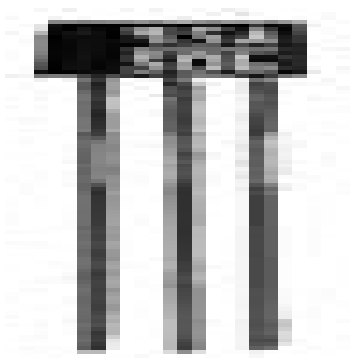
SS496A1-T2



Actual product appearance may vary.

SS490 Series High Accuracy Miniature Ratiometric Linear Hall-Effect Sensor; radial lead IC package; tape-and-box (ammopack) version with formed leads

Keyword Search

Search for product and support information.

All Sensing and Contro

Product Search

Part number search:

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Specification Search

Features

Small size
Low power consumption
Single current sinking or current sourcing output
Linear output for circuit design flexibility
Built-in thin-film resistors - laser trimmed for precise sensitivity and temperature compensation
Rail-to-rail operation provides more useable signal for higher accuracy
Responds to either positive or negative gauss
Quad Hall sensing element for stable output

Potential Applications

Current sensing
Motor control
Position sensing
Magnetic code reading
Rotary encoder
Ferrous metal detector
Vibration sensing
Liquid level sensing
Weight sensing

Description

The SS490 Series MRL (Miniature Ratiometric Linear) sensors are versatile linear Hall effect devices operated by the magnetic field from a permanent magnet or an electromagnet. The ratiometric output voltage is set by the supply voltage. It varies in proportion to the strength of the magnetic field.
The integrated circuitry provides increased temperature stability and sensitivity. Laser trimmed thin film resistors on the chip provide high accuracy (null to 3%, sensitivity up to 3%) and temperature compensation. The positive temperature coefficient of the sensitivity (+0.02 %/ C typical) compensates for the negative temperature coefficients of low cost magnets.
The SS490B Series sensors offer cost-effective MRL sensing with slightly wider specifications than the SS490 products. The SS490B has a typical sinking or sourcing output of 1.5 mA continuous, uses seven mA of supply current at 5.0 volts at 25 C, for predictable performance over the full temperature range. SS490B Series sensors have wider null and sensitivity tolerances and a wider drift over temperature.
NOTE: Products ordered in bulk packaging (plastic bags) may not have perfectly straight leads as a result of normal handling and shipping operations. Please order tape packaging option for applications with critical lead straightness requirements.

Supporting Documentation

Dimensions
Circuit Block Diagram
Required Accessories—Magnets
Engineering Drawing

Product Specifications	
Product Type	Hall-Effect Digital Position Sensor IC
Package Quantity/Type	Available in 5,000/Tape and Box (ammopack)
Package Style	Ammopack style T2
Supply Voltage	4.5 Vdc to 10.5 Vdc
Output Type	Sink/Source
Termination Type	PC Board
Magnetic Actuation Type	Ratiometric
Operating Temperature Range	-40 °C to 150 °C [-40 °F to 302 °F]
Storage Temperature	-55 °C to 165 °C [-67 °F to 329 °F]
Output Voltage	0.2 Vdc to (V_s - 0.2 Vdc) typ., 0.4 Vdc to (V_s - 0.4 Vdc) min.
Linearity (% of Span)	-1.0 % typ.
Output Voltage Span (min.)	0.4 Vdc to (V_s - 0.4 Vdc)
Availability	Global
Supply Current (max. @ 25 °C)	8.7 mA @ 5 Vdc
Sensitivity @ 25 °C	2.500 mV ± 0.075 mV/G
Output Voltage Swing (Negative G)	0.4 Vdc
Output Voltage Swing (Positive G)	V_s - 0.4 Vdc
Temperature_Error_25_Null_Shift_2	± 0.032
Temperature_Error_25 Sensitivity_1	-0.01 min., 0.05 max.
Output_Current_Typical_Source_45	1.5 mA
Output_Current_Minimum_Source_45	1 mA
Output_Current_Minimum_Sink_45	0.6 mA
Output_Current_Minimum_Sink_5	1 mA
Magnetic Range (typ.)	-84 mT to 84 mT [-840 G to 840 G]
Magnetic Range (min.)	-75 mT to 75 mT [-750 G to 750 G]
Output Voltage Span (typ.)	0.2 Vdc to (V_s - 0.2 Vdc)
Null (Output @ 0 G)	2.50 Vdc ± 0.075 Vdc
Response Time (µs)	3 µs
Series Name	SS490