

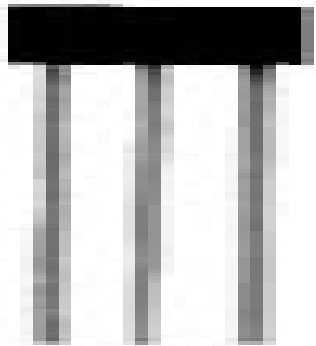


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SS494B-SP



Actual product appearance may vary.

SS494 Series Miniature Ratiometric Linear Hall-Effect Sensor; surface mount package, available in 1,000 per tape and reel

Features

Small size
 Low power consumption
 Single current sinking or current sourcing linear output
 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

SS494 Series MRL (Miniature Ratiometric Linear) sensors have a ratiometric output voltage, set by the supply voltage. It varies in proportion to the strength of the magnetic field.

A new Hall effect integrated circuit chip provides increased temperature stability and sensitivity. Laser trimmed thin film resistors on the chip provide high accuracy and temperature compensation to reduce null and gain shift over temperature. The quad Hall sensing element minimizes the effects of mechanical or thermal stress on the output. The positive temperature coefficient of the sensitivity helps compensate for the negative temperature coefficients of low cost magnets, providing a robust design over a wide temperature range.

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](#)

[▣ Required Accessories—Magnets](#)

[▣ Engineering Drawing](#)

Product Specifications	
Product Type	Miniature Hall-Effect Linear Position Sensor IC
Package Quantity/Type	Available in 1,000/Tape and Reel
Package Style	Surface Mount
Supply Voltage	4.5 Vdc to 10.5 Vdc
Output Type	Sink/Source
Termination Type	Surface Mount
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	5.0 mV ± 0.4 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	± 0.08
Temperature_Error_25 Sensitivity_1	-0.02 min., 0.08 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.)	-42 mT to 42 mT [-420 G to 420 G]
Magnetic Range (min.)	-37.5 mT to 37.5 mT [-375 G to 375 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	SS494

Keyword Search

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All Sensing and Control

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