Honeywell

Honeywell Sensing and Control

SS94A1

SS94 Series General Purpose Ratiometric Linear Sensor; Vdc supply voltage

Actual product appearance may vary.

Features

- Single current sinking or current sourcing linear output
- Improved temperature stability
- Standard mounting centers
- Laser trimmed thin film and thick film resistors minimize sensitivity variations and compensate for temperature variations

Potential Applications

- Ignition timing
- Power sensing
- Valve position
- Robotics control
- Current sensing
- Linear or rotary motion detection
- Length measurement
- Flow sensing
- RPM sensing
- Security systems

Description

The SS9 utilizes a Hall effect integrated circuit chip which provides increased temperature stability and performance. Laser trimmed thick film resistors on the ceramic substrate and thin film resistors on the integrated circuit reduce null and gain shifts over temperature which results in consistent sensitivity from one device to the next.

APPLICATION CONSIDERATION: The output is clamped at the high end. Clamping voltage may be as low as 9 Vdc. The output will not exceed the clamping voltage regardless of field strength or power supply.

Product Specifications	
Product Type	Hall-Effect Linear Position Sensor
Package Style	Ceramic SIP
Supply Voltage	6.6 Vdc to 12.6 Vdc
Output Type	Sink/Source
Termination Type	PC Board
Magnetic Actuation Type	Ratiometric Linear
Operating Temperature Range	-40 °C to 125 °C [-40 ° F to 257 °F]
Linearity (% of Span)	-1.5 % max.
Availability	Global
Supply Current (max. @ 25 °C)	30 mA
Output Current (max.)	1 mA
Sensitivity @ 25 °C	5.0 mV ± .1 mV/G
Temperature_Error_25_Null_Shift_2	± 0.02%
Temperature_Error_25 Sensitivity_1	± 0.02%
Magnetic Range (min.)	-50 mT to 50 mT [-500 G to 500 G]
Output Voltage Span (typ.)	5.0 Vdc @ 8 Vdc
Response Time (µs)	3 ms (typ.)
Vout (0 G @ 25 °C)	4.00 Vdc ± 0.04 Vdc
Series Name	SS94

MICRO SWITCH
a Honeywell Division
FED. MFG. CODE 91929

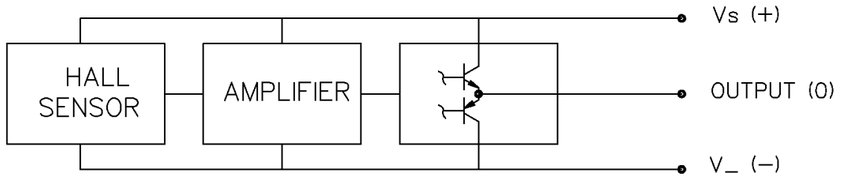
LINEAR OUTPUT HALL EFFECT TRANSDUCER

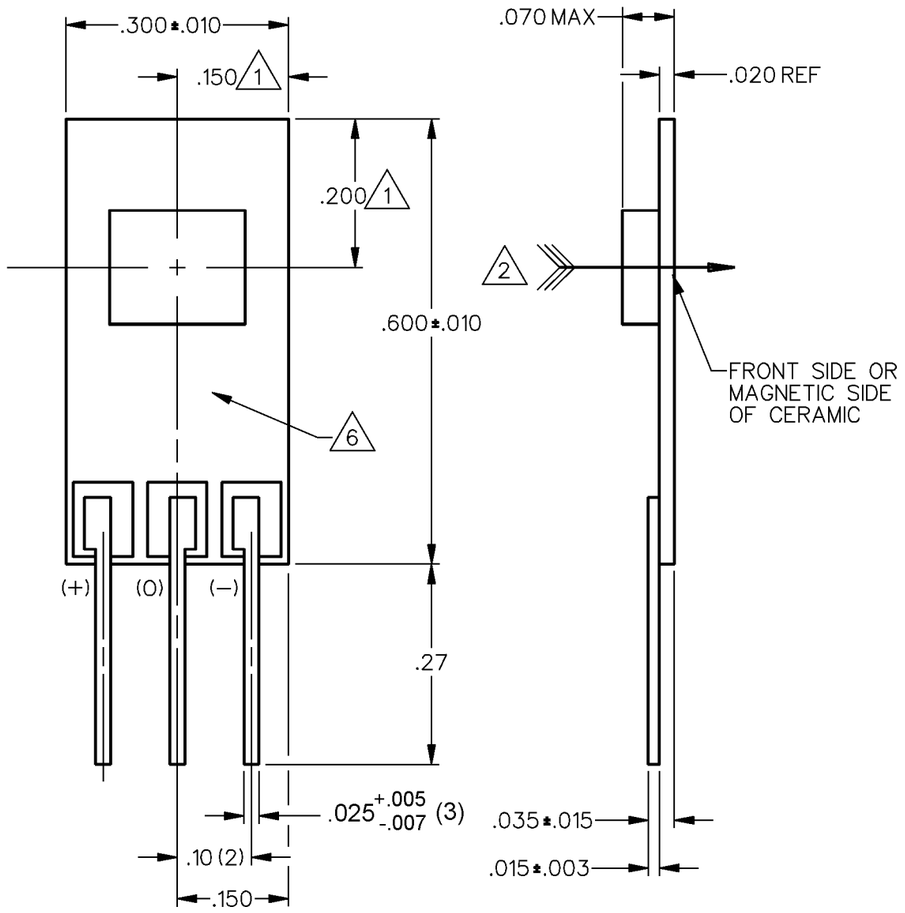
CATALOG LISTING
SS94A1

OPERATING CHARACTERISTICS

PARAMETER	MIN	TYP	MAX	UNITS	CONDITIONS/REMARKS
SUPPLY VOLTAGE	6.6	8.0	12.6	VOLTS	−40°C TO +125°C
SUPPLY CURRENT		13	30	mA	MAX @ 12.6 V @ −40°C
OUTPUT CURRENT			1	mA	SINKING OR SOURCING
OUTPUT SPAN		.625 V_S		VOLTS	−500G TO +500G @ 25°C ⟨5⟩
SENSITIVITY	4.90	5.0	5.10	mV/g	@ 8.0 V_S & 25°C
LINEARITY	−1.5	−.8	0	% OF SPAN	DEV FROM STR LINE THRU −500 AND +500
V_{OUT} @ 0 GAUSS	3.960	4.000	4.040	VOLTS	25°C
TEMP ERROR−NULL	−.02		+.02	%/°C	−40°C TO +125°C
TEMP ERROR−GAIN	−.02		+.02	%/°C	−40°C TO +125°C

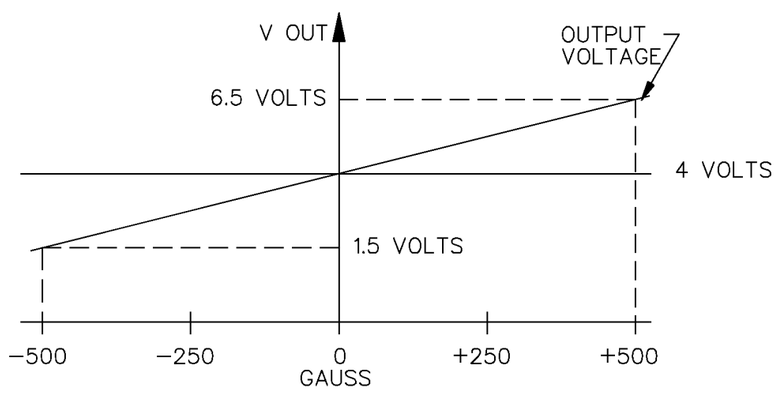
BLOCK DIAGRAM CURRENT SINKING OR SOURCING OUTPUT





NOTES
⟨1⟩ CENTERLINE OF HALL CELL
⟨2⟩ THE + MAGNETIC FLUX IS IN THIS DIRECTION (THIS ASSUMES THE CONVENTION THAT THE DIRECTION OF THE EXTERNAL FLUX OF A MAGNET IS FROM THE NORTH TO THE SOUTH POLE OF THE MAGNET)
3 − THE DEVICE CANNOT BE DAMAGED BY MAGNETIC OVERDRIVE
4 − OUTPUT TYPE − RATIOMETRIC
⟨5⟩ THE OUTPUT IS CLAMPED AT 9.0 VDC MINIMUM, 9.5 VDC TYPICAL
⟨6⟩ ARTWORK TYPICAL

NOMINAL TRANSFER CHARACTERISTICS AT 8.0 VDC



CAUTION ELECTROSTATIC SENSITIVE DEVICES
ESD SENSITIVITY: CLASS 3

THIRD ANGLE PROJECTION
SCALE 5 : 1
DO NOT SCALE PRINT

UNLESS OTHERWISE SPECIFIED TOLERANCES ARE

ONE PLACE	(.0)	±.030
TWO PLACE	(.00)	±.015
THREE PLACE	(.000)	±.005
ANGLES		±

WEIGHT

ANSI Y14.5M−1982 APPLIES

RASTER

FORMTEK
DRAWN J A S 13 SEPT 88
CHECK D A W 13 SEPR 88
CHECK BLR
CHECK
ISSUE 7
CATALOG LISTING SS94A1
PAGE 1 OF 1
RELEASE NO. DR−3524
REPLACES X83052−SS

REVISIONS

A	C064262	J A S 13 SEPT 88
B	C072441	J A S 18 MAY 92
C	CO−95704	DLM 21 MAR 00
D	0038694	SSK 11APR08