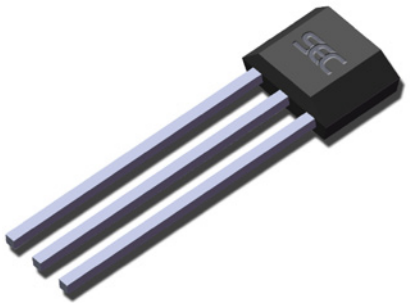
Features

- Miniature construction
- Low-Noise Output
- 4.5 V to 6 V Operation
- Magnetically Optimized Package
- Linear output for circuit design flexibility
- Temperature range of -40 °C to 150 °C



3 pin SIP (suffix UA)

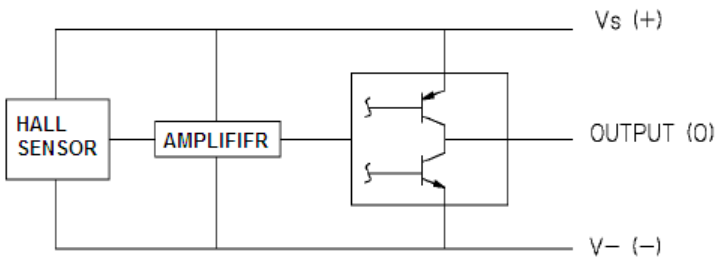
Description

SS695 Linear Hall-effect sensor is a small, versatile linear Hall-effect device that is operated by the magnetic field from a permanent magnet or an electromagnet. The linear sourcing output voltage is set by the supply voltage and varies in proportion to the strength of the magnetic field. Specifically, when S495 is in the zero magnetic field conditions, the output voltage is half of the supply voltage. When south poles approach the S495 marking surface, the output voltage will increase linearly with the magnetic field strength; on the other hand, north pole will cause output voltage decreases linearly with the increase in magnetic field strength. The integrated circuitry features low noise output, which makes it unnecessary to use external filtering. It also includes thin film resistors to provide increased temperature stability and accuracy. The linear Hall sensor has an operating temperature range of -40 °C to 150 °C appropriate for commercial, consumer and industrial environments.

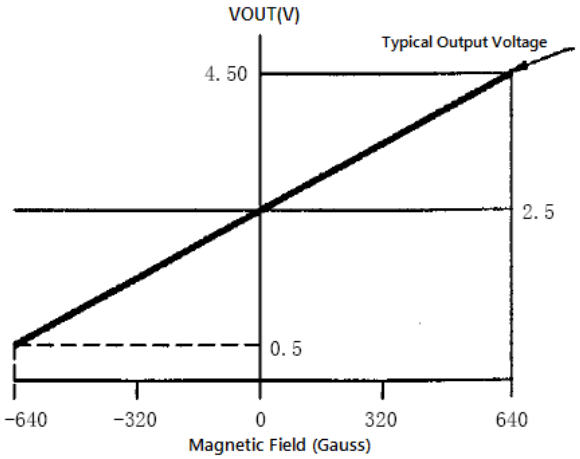
Typical Applications

- Electric vehicles speed regulation pedal
- Motion detector
- Gear sensing
- Motor control
- Magnetic code reading
- Ferrous metal detector
- Current sensing
- Position sensing
- Proximity detector

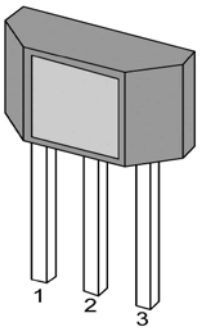
Functional Block Diagram



Magnetic Electric Conversion Curve



Pin Definitions and Descriptions



Name	No	Status	Description
V_{dd}	1	P	Power Supply
Gnd	2	P	IC Ground
Output	3	O	Output

Absolute Maximum Ratings

Parameter	Symbol	Value	Units
Supply Voltage (operating)	V_{CC}	10.5	V
Output Current	I_{OUT}	2	mA
Operating Temperature Range	T_A	-40~150	°C
Storage Temperature Range	T_S	-65~150	°C

Electrical Characteristics

Operation parameters T_A =25°C，V_{CC} =5.0V

Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Operating Voltage	V_{CC}	Operating	4.5	5	10.5	V
Supply Current	I_{CC}	Average		5	8.0	mA
Output Current	I_{OUT}		1.0	1.5		mA
Response Time	Tack			3		uS
Quiescent Output Voltage	Vo	B = 0G		2.5		V
Sensitivity	$\triangle V_{out}$	T_A= 25°C	3.0	3.3	3.6	mV/G
Min Output Voltage		B = -700G		0.2		V
Max Output Voltage		B = 700G		4.8		V

Magnetic Field Characteristics

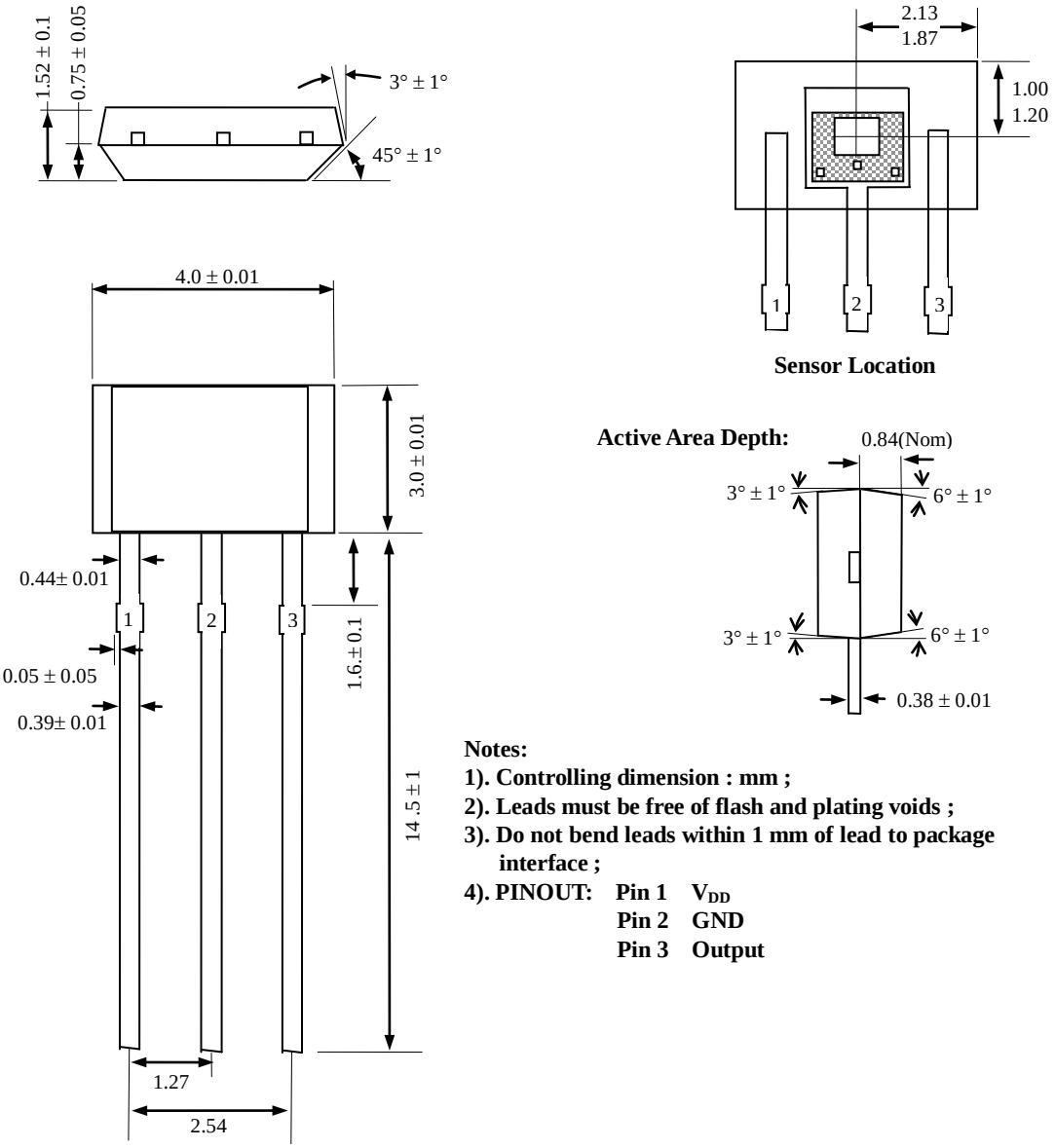
Parameter	Test Conditions	Min	Typ	Max	Units
Sensitivity	T_A= 25°C	3.0	3.3	3.6	mV/G
Range of magnetic field strength		±650	±700		G
Linearity			- 1.0		%
Operating Temperature		-40		+150	°C
Zero drift		- 0.10		0.10	%/°C
Sensitivity temperature drift	$T_A \geq$ 25°C	- 0.15		0.05	%/°C
	T_A< 25°C	- 0.04		0.185	%/°C

Installation Caution:

1. Should be installed by minimizing the mechanical stress on the Hall circuit;
2. On the conditions of ensuring the quality of the welding, the welding temperature and time should be reduced as far as possible.

Package Information

Package UA, 3-Pin SIP (Unit:mm):



Notes:
1). Controlling dimension : mm ;
2). Leads must be free of flash and plating voids ;
3). Do not bend leads within 1 mm of lead to package interface ;
4). PINOUT: Pin 1 V_{DD}
Pin 2 GND
Pin 3 Output

Ordering Information

Part No.	Pb-free	Temperature Code	Package Code	Packing
SS695EUA	YES	-40°C to 85°C	TO-92	Bulk, 1000 pieces/bag
SS695KUA	YES	-40°C to 125°C	TO-92	Bulk, 1000 pieces/bag
SS695LUA	YES	-40°C to 150°C	TO-92	Bulk, 1000 pieces/bag