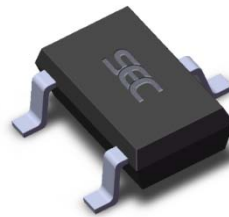


### Features

- 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 SOT23 (suffix SO)



3 pin SIP (suffix UA)

### Description

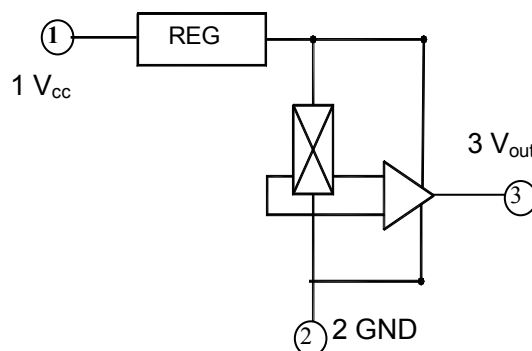
SS4825 Linear Hall-effect sensor is small, versatile linear Hall-effect device that is operated by the magnetic field from a permanent magnet or an electromagnet. The linear sourcing output voltage is set by the supply voltage and varies in proportion to the strength of the magnetic field. The integrated circuitry features low noise out-

put, 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

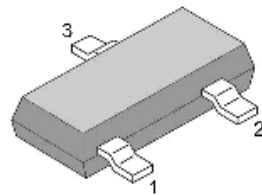
- Motor control
- Magnetic code reading
- Ferrous metal detector
- Current sensing
- Position sensing

### Functional Block Diagram

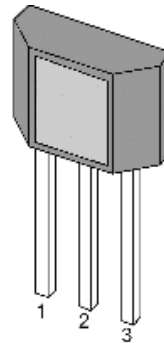


### Pin Definitions and Descriptions

SOT Pin №	SIP Pin №	Name	Type	Function
1	1	V <sub>DD</sub>	Supply	Supply Voltage pin
2	3	OUT	Output	Open Drain Output pin
3	2	GND	Ground	Ground pin



SOT-23



TO-92

### Absolute Maximum Ratings

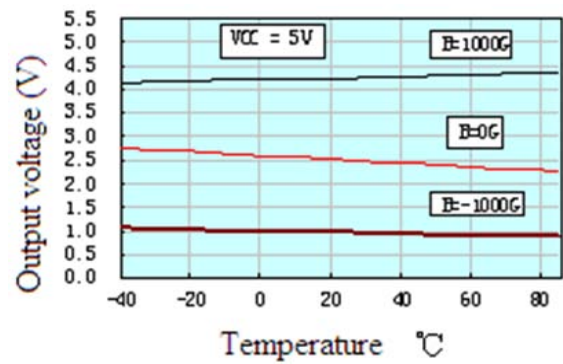
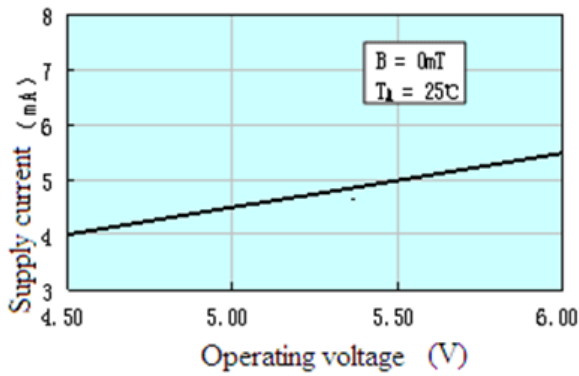
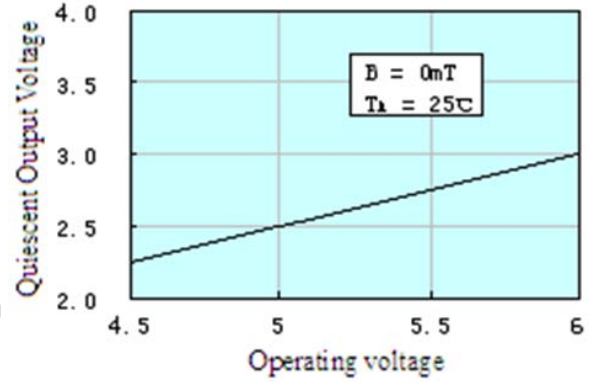
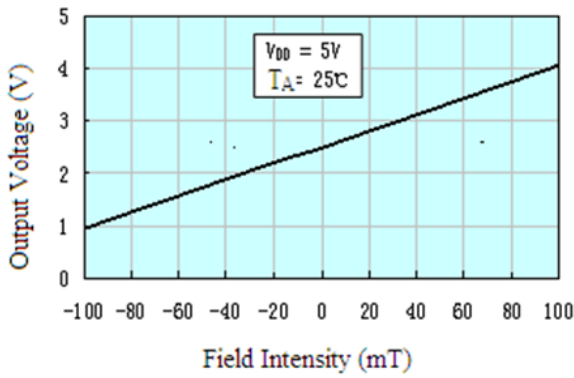
Parameter	Symbol	Value	Units
Supply Voltage (operating)	V <sub>CC</sub>	8.0	V
Output Current	I <sub>OUT</sub>	20	mA
Operating Temperature Range	T <sub>A</sub>	-40~150	°C
Storage Temperature Rang	T <sub>S</sub>	-65~150	°C

### Electrical Characteristics

Operating Parameters T<sub>A</sub> = 25°C, V<sub>CC</sub> = 5.0 V

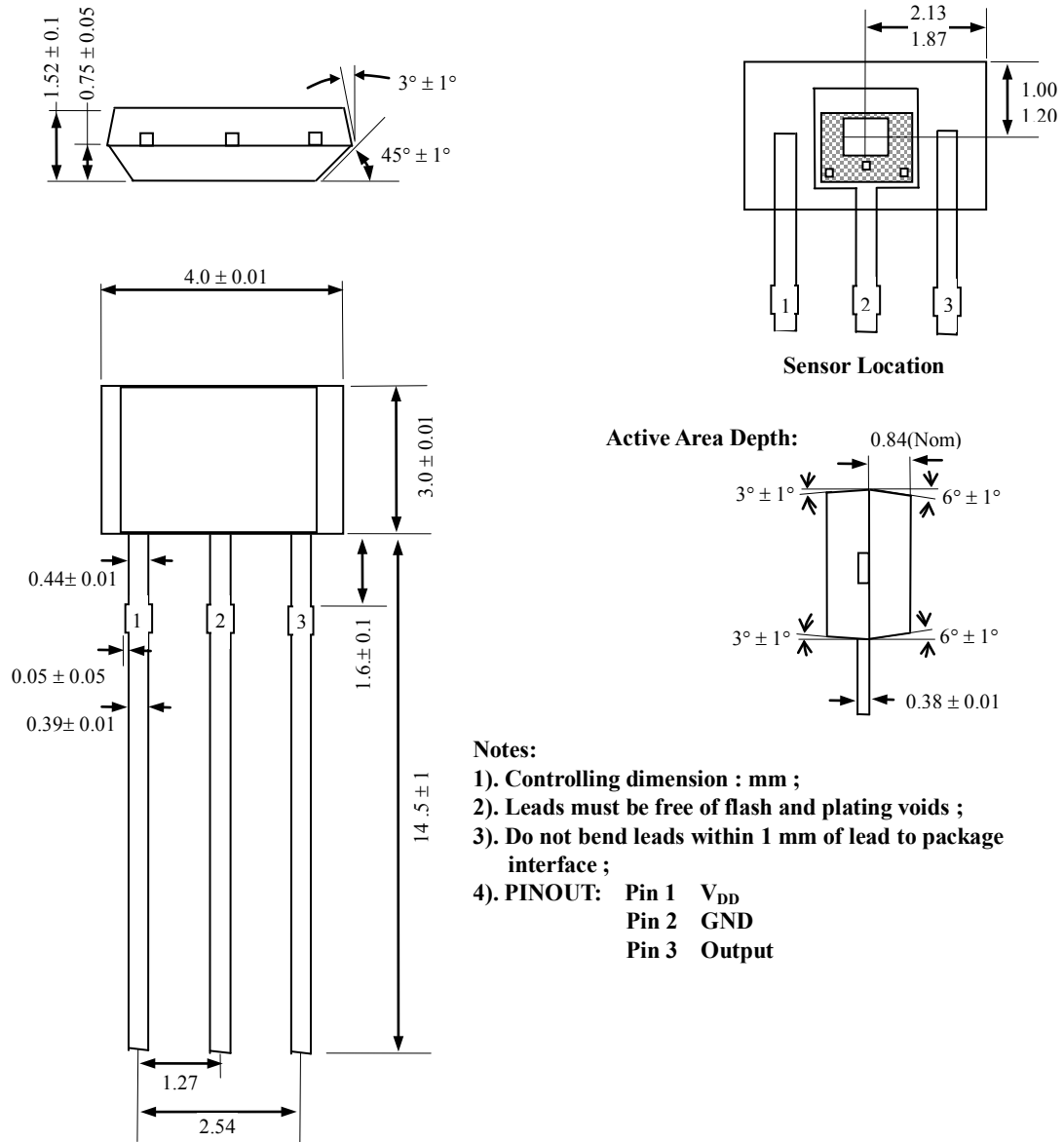
Parameter	Symbol	Test Conditions	Min	Typ	Max	Units
Operating voltage	V <sub>CC</sub>	Operating	3.0		6.5	V
Supply current	I <sub>CC</sub>	Average		4.2	8.0	mA
Output Current	I <sub>OUT</sub>		1.0	1.5		mA
Response Time	Tack			3		uS
Quiescent Output Voltage	V <sub>o</sub>	B = 0G	2.25	2.5	2.75	V
Sensitivity	ΔV <sub>OUT</sub>	T <sub>A</sub> = 25°C	2.0	2.5	3.0	mV/G
Min Output Voltage		B = -1500G		0.86		V
Max Output Voltage		B = 1500G		4.21		V
Linearity (% of Span)				-0.007		
Temperature Error (Null Drift)			-0.10		0.10	%/°C
Sensitivity Drift		T <sub>A</sub> ≥ 25°C	-0.15		0.05	%/°C
		T <sub>A</sub> < 25°C	-0.04		0.185	%/°C

**Performance Characteristics**

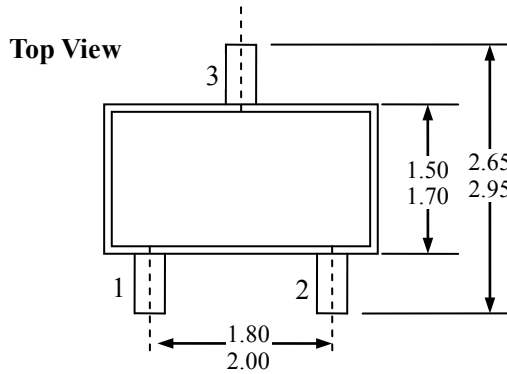


## Package Information

### Package UA, 3-Pin SIP:

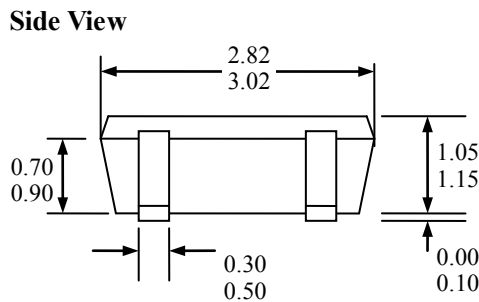


**Package SO, 3-Pin SOT-23:**

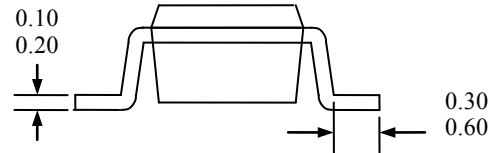


**Notes:**

- 1). **HNOUT:** Pin 1  $V_{DD}$   
Pin 2 Output  
Pin 3 GND
- 2). All dimensions are in millimeters ;

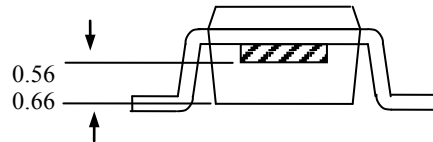
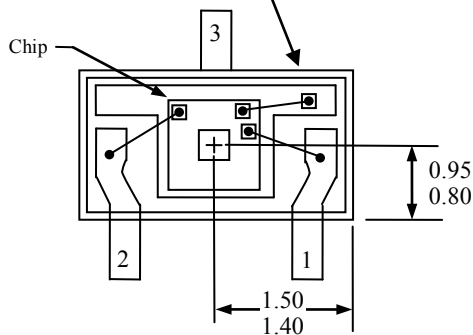


**End View**



**SOT-23 Hall plate location**

**Bottom View of SOT-23 Package**



**Ordering Information**

Part No.	Pb-free	Temperature Code	Package Code	Packing
SS4825EUA	YES	-40°C to 85°C	TO-92	Bulk, 1000 pieces/bag
SS4825ESOT	YES	-40°C to 85°C	SOT-23	7-in. reel, 4000 pieces/ reel
SS4825KUA	YES	-40°C to 125°C	TO-92	Bulk, 1000 pieces/bag
SS4825KSOT	YES	-40°C to 125°C	SOT-23	7-in. reel, 4000 pieces/ reel
SS4825LUA	YES	-40°C to 150°C	TO-92	Bulk, 1000 pieces/bag
SS4825LSOT	YES	-40°C to 150°C	SOT-23	7-in. reel, 4000 pieces/ reel