

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 85 °C



3 pin SIP (suffix UA)

Description

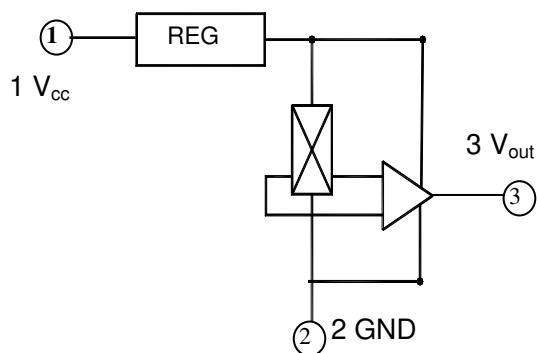
SS49E Linear Hall-effect sensor is small, versatile linear Hall-effect device that is operated by the magnetic field from a permanent magnet or an electromagnet. The linear sourcing output voltage is set by the supply voltage and varies in proportion to the strength of the magnetic field. The integrated circuitry features low

noise 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 85 °C appropriate for commercial, consumer and industrial environments.

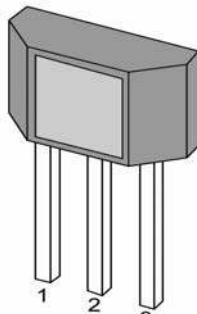
Typical Applications

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

Functional Block Diagram



Pin Definitions and Descriptions



| Name | No | Status | Description |
|--------|----|--------|--------------|
| Vdd | 1 | P | Power Supply |
| Gnd | 2 | P | IC Ground |
| Output | 3 | O | Output |

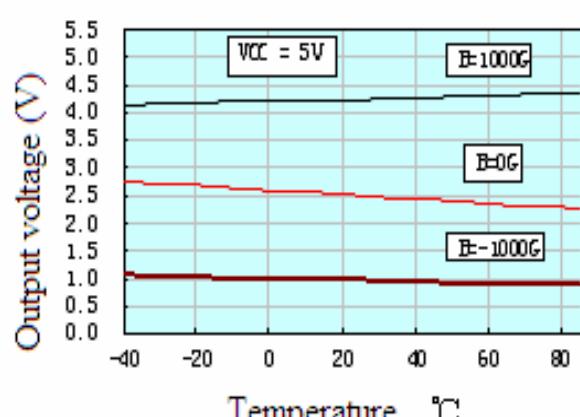
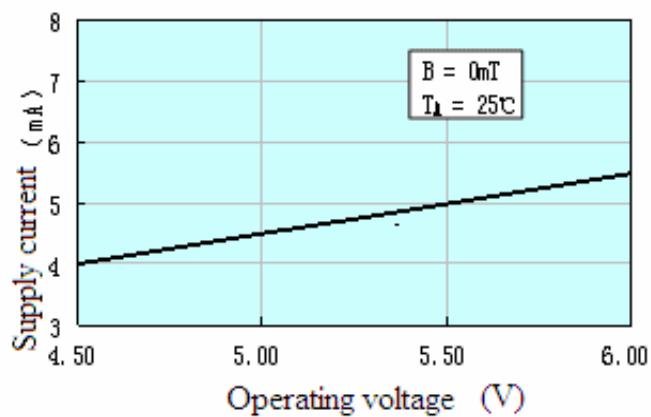
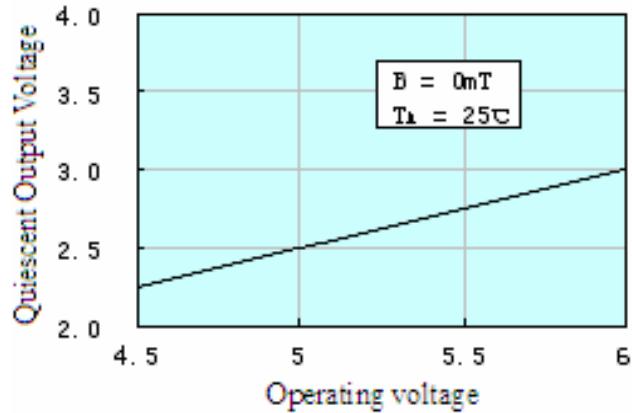
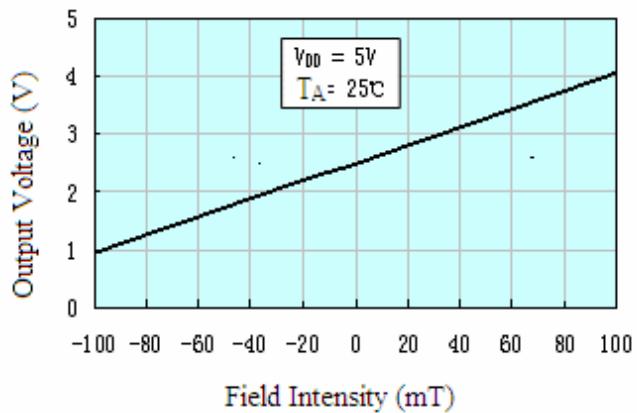
Absolute Maximum Ratings

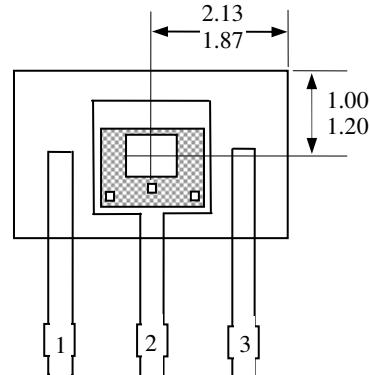
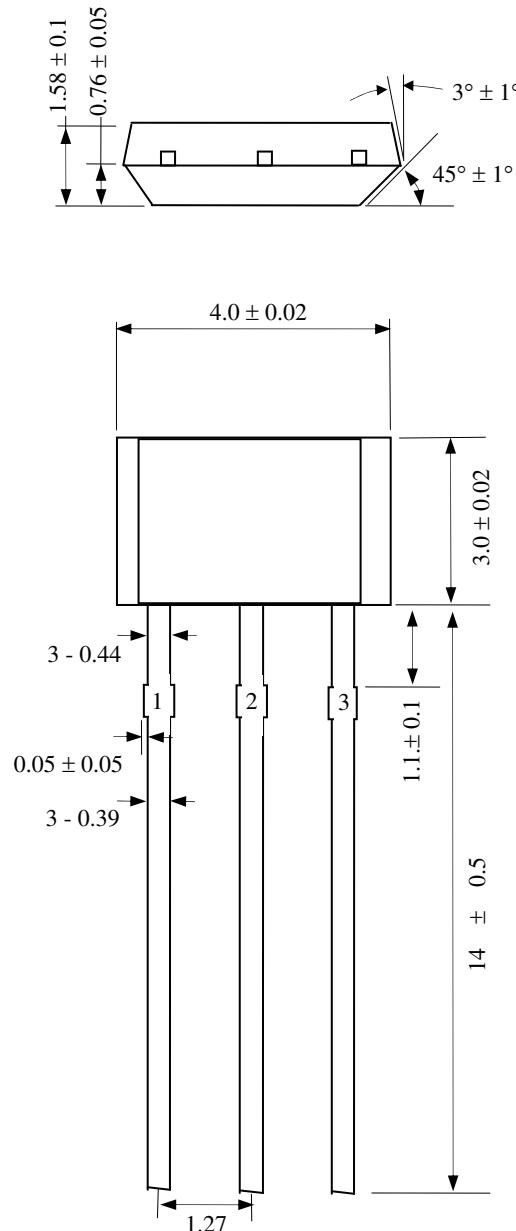
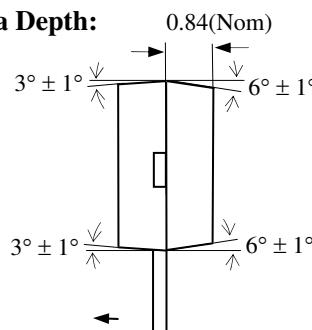
| Parameter | Symbol | Value | Units |
|-----------------------------|------------------|---------|-------|
| Supply Voltage (operating) | V _{CC} | 8.0 | V |
| Output Current | I _{OUT} | 20 | mA |
| Operating Temperature Range | T _A | -40~85 | °C |
| Storage Temperature Range | T _S | -65~150 | °C |

Electrical Characteristics (T_A =25°C, V_{CC} =5.0V)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Units |
|--------------------------|-------------------|----------------------|------|------|------|-------|
| Operating voltage | V _{CC} | Operating | 3.0 | | 6.5 | V |
| Supply current | I _{CC} | Average | | 4.2 | 8.0 | mA |
| Output Current | I _{OUT} | | 1.0 | 1.5 | | mA |
| Response Time | T _{ack} | | | 3 | | uS |
| Quiescent Output Voltage | V _O | B=0G | 2.25 | 2.5 | 2.75 | V |
| Sensitivity | △V _{out} | T _A =25°C | 1.6 | 1.8 | 2.0 | mV/G |
| Min Output Voltage | | B=-1500G | | 0.86 | | V |
| Max Output Voltage | | B=1500G | | 4.21 | | V |

Performance Characteristics



Package Information
Package UA, 3-Pin SIP:

Sensor Location
Active Area Depth:

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 VDD
Pin 2 GND
Pin 3 Output

Ordering Information

| Part No. | Pb-free | Temperature Code | Package Code | Packing |
|----------|---------|------------------|--------------|-----------------------|
| SS49EUA | YES | -40°C to 85°C | TO-92 | Bulk, 1000 pieces/bag |
| SS49KUA | YES | -40°C to 125°C | TO-92 | Bulk, 1000 pieces/bag |
| SS49LUA | YES | -40°C to 150°C | TO-92 | Bulk, 1000 pieces/bag |
