



SK8509

LINEAR INTEGRATED CIRCUIT

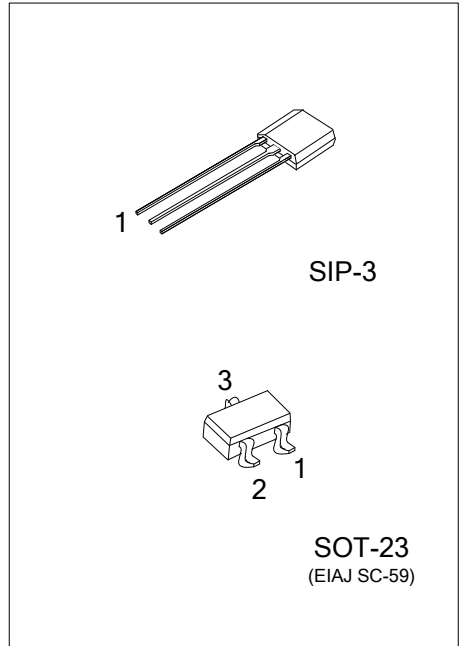
HALL-EFFECT SENSOR IC

DESCRIPTION

SK8509 is a semiconductor integrated circuit utilizing the Hall effect. It has been so designed as to operate in the accurately track extremely small changes in magnetic flux density-changes generally too small to operate Hall-effect switches. This Hall IC is suitable for application to various kinds of sensors, contact-less switches, motion detectors, gear tooth sensors, and proximity detectors, and the like.

FEATURES

- * Wide Supply Voltage Range of 4V to 7V
- * Wide Temperature Operation Range of -20°C ~+85°C
- * The Life is Semipermanent because it Employs Contactless Parts



ORDERING INFORMATION

| Ordering Number | | Package | Pin Assignment | | | Packing |
|-----------------|---------------|---------|----------------|---|---|-----------|
| Lead Free | Halogen Free | | 1 | 2 | 3 | |
| SK8509L-AE3-R | SK8509G-AE3-R | SOT-23 | O | I | G | Tape Reel |
| SK8509L-G03-B | SK8509G-G03-B | SIP-3 | I | G | O | Tape Box |
| SK8509L-G03-K | SK8509G-G03-K | SIP-3 | I | G | O | Bulk |

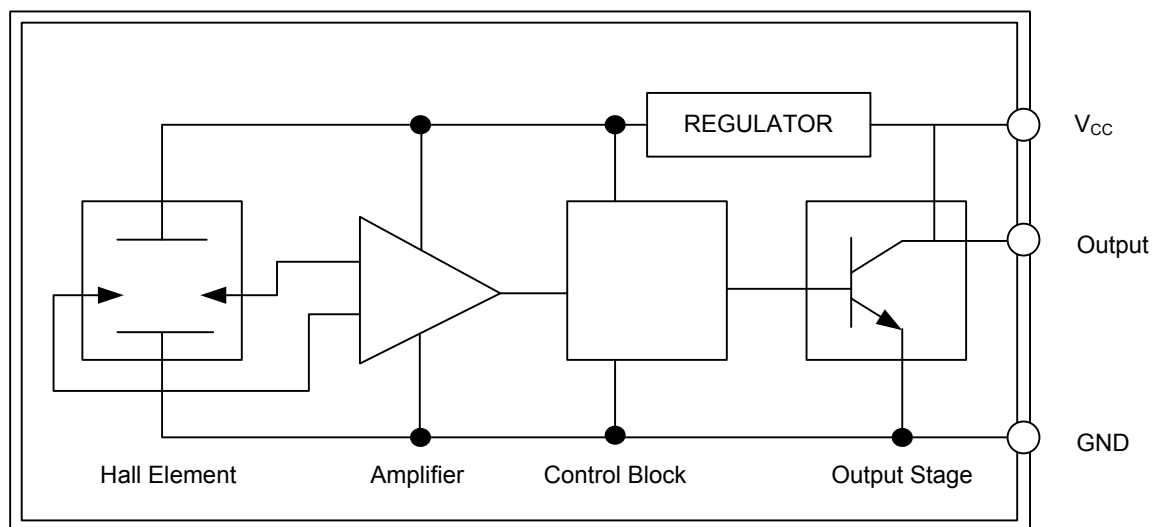
Note: Pin Assignment: I: V_{CC} O: V_{OUT} G: GND

| | |
|---|---|
| <p>SK8509L-AE3-R</p> <p>(1) Packing Type</p> <p>(2) Package Type</p> <p>(3) Lead Free</p> | <p>(1) B: Tape Box, K: Bulk, R: Tape Reel</p> <p>(2) AE3: SOT-23, G03: SIP-3</p> <p>(3) G: Halogen Free, L: Lead Free</p> |
|---|---|

MARKING

| SIP-3 | SOT-23 |
|---|--|
| <p>8509 □</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> <p>Date Code</p> | <p>8509 □</p> <p>L: Lead Free</p> <p>G: Halogen Free</p> |

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

| PARAMETER | SYMBOL | RATINGS | UNIT |
|-------------------------------|-----------|----------|------|
| Supply Voltage | V_{CC} | 7V | V |
| Supply Current | I_{CC} | 10 | mA |
| Operating Ambient Temperature | T_{OPR} | -20~+85 | °C |
| Storage Temperature | T_{STG} | -55~+150 | °C |

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$, $V_{CC}=5\text{V}$)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|--------------------------|------------------|--------------------------|------|------|------|------|
| Operating Voltage | V_{CC} | | 4 | | 7 | V |
| Quiescent Output Voltage | V_{OUT} | B=0G | 2.25 | 2.50 | 2.75 | V |
| Supply Current | I_{CC} | | | 3 | 10 | mA |
| Sensitivity | ΔV_{OUT} | B=0G ~ $\pm 900\text{G}$ | 0.75 | 1.30 | 1.75 | mV/G |

■ PACKAGE INFORMATION

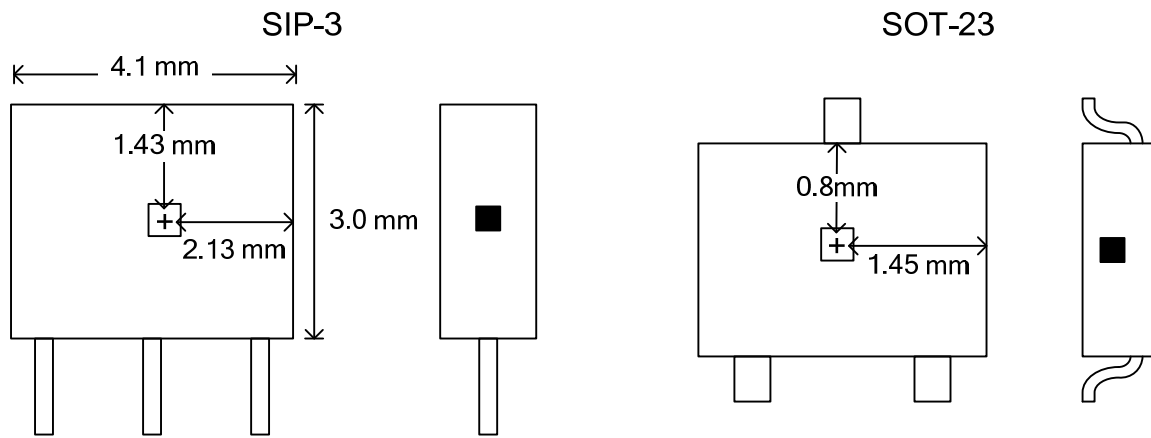
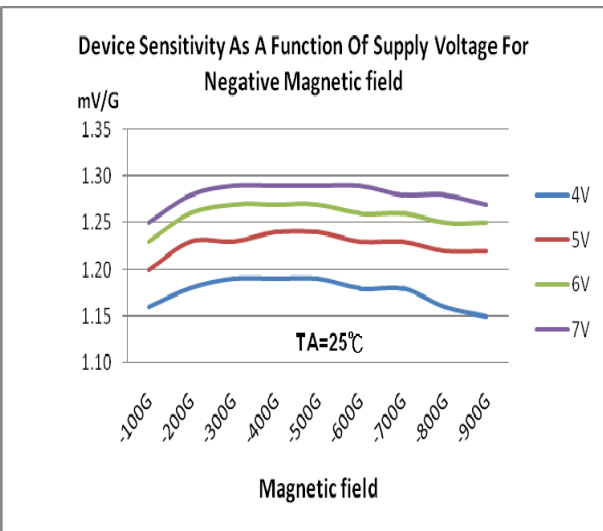
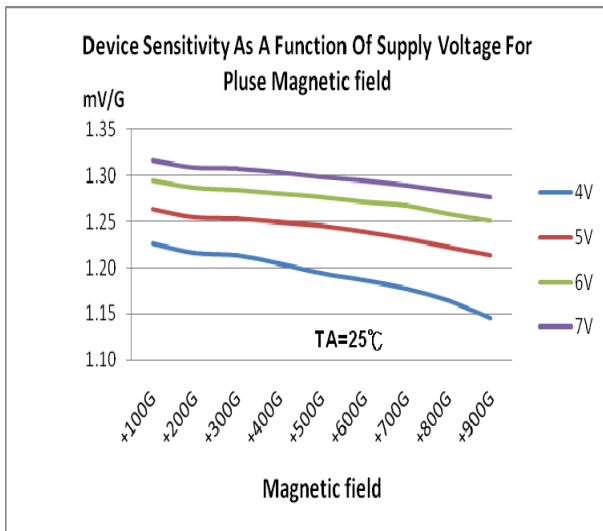
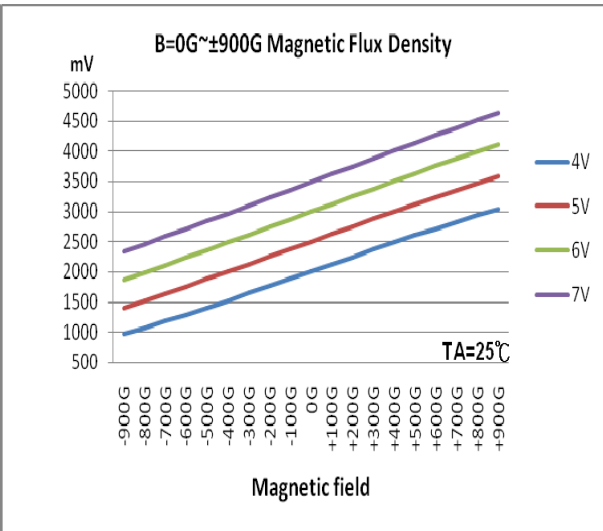
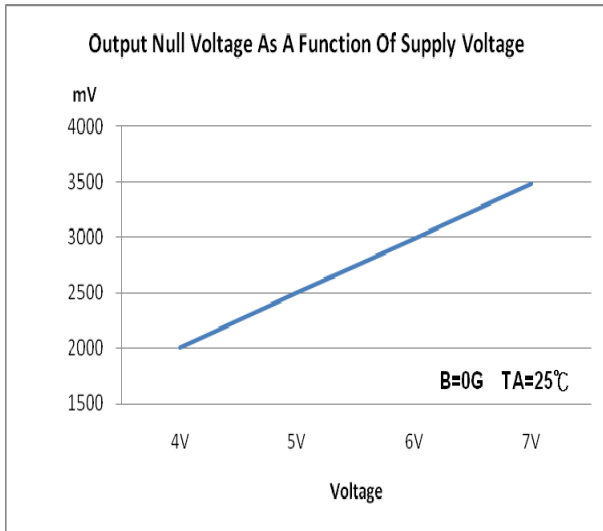
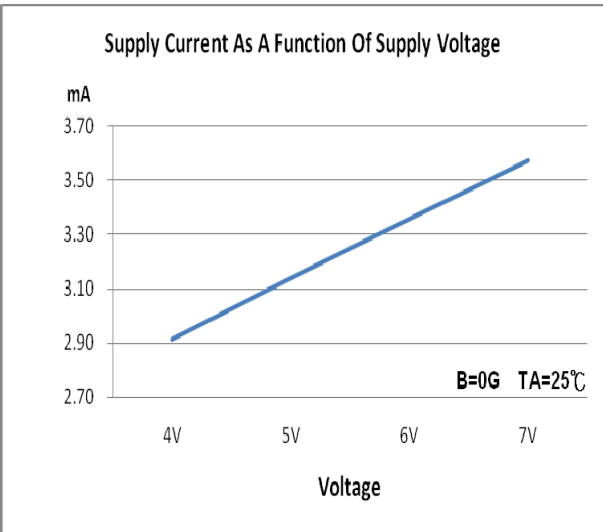
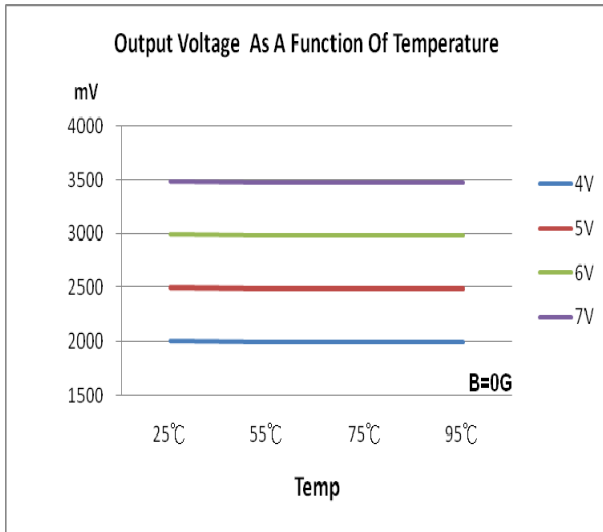


Fig. 1 SENSOR LOCATIONS

■ TYPICAL CHARACTERISTICS



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.