



# SK1901

## LINEAR INTEGRATED CIRCUIT

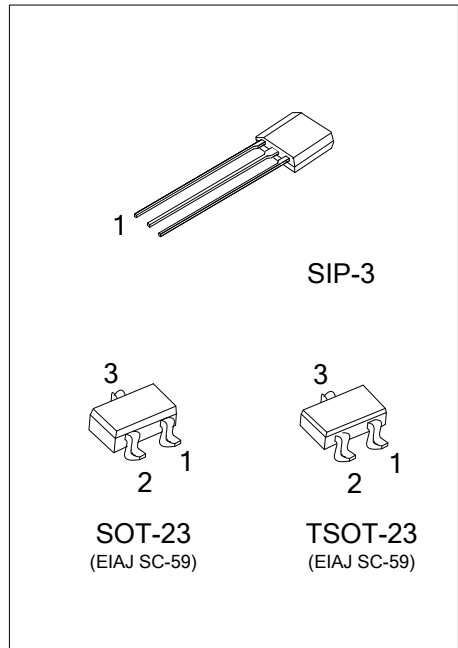
### HALL-EFFECT SWITCH FOR HIGH-TEMPERATURE OPERATION

■ DESCRIPTION

**SK1901** is a semiconductor integrated circuit utilizing the Hall effect. It has been so designed as to operate in the alternating magnetic field especially at low supply voltage and operation over extended temperature ranges to +125°C. This Hall IC is suitable for application to various kinds of sensors, contact-less switches, and the like.

■ FEATURES

- \* Wide supply voltage range of 2.5V to 20V
- \* Wide temperature operation range of -20°C~+125°C
- \* TTL and MOS IC are directly drivable by the output
- \* The life is semipermanent because it employs contact-less parts



■ ORDERING INFORMATION

| Ordering Number |               | Package | Pin Assignment |   |   | Packing   |
|-----------------|---------------|---------|----------------|---|---|-----------|
| Lead Free       | Halogen Free  |         | 1              | 2 | 3 |           |
| SK1901L-AE3-R   | SK1901G-AE3-R | SOT-23  | O              | I | G | Tape Reel |
| SK1901L-AH3-R   | SK1901G-AH3-R | TSOT-23 | O              | I | G | Tape Reel |
| SK1901L-G03-B   | SK1901G-G03-B | SIP-3   | I              | G | O | Tape Box  |
| SK1901L-G03-K   | SK1901G-G03-K | SIP-3   | I              | G | O | Bulk      |

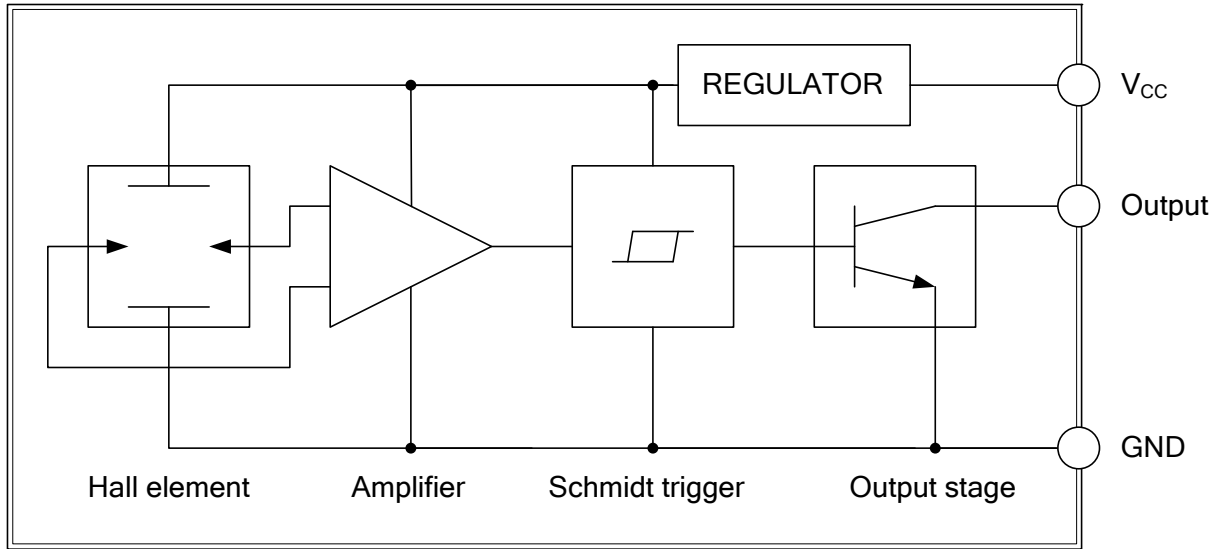
Note: Pin Assignment: I: V<sub>CC</sub> O: V<sub>OUT</sub> G: GND

|                      |  |
|----------------------|--|
| <p>SK1901G-AE3-R</p> | <p>(1) R: Tape Reel, K: Bulk</p> <p>(2) AE3: SOT-23, AH3: TSOT-23, G03: SIP-3</p> <p>(3) G: Halogen Free and Lead Free, L: Lead Free</p> |
|----------------------|--|

■ MARKING

| SIP-3 | SOT-23 / TSOT-23 |
|-------|------------------|
|       |                  |

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS( $T_A = 25^\circ\text{C}$ , unless otherwise specified)

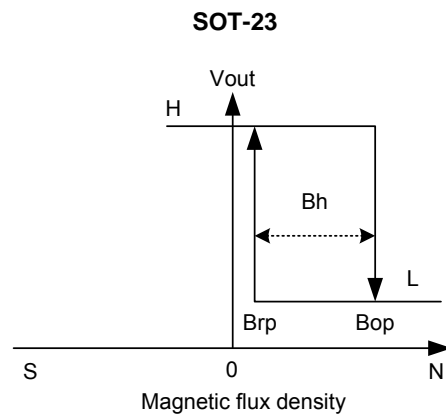
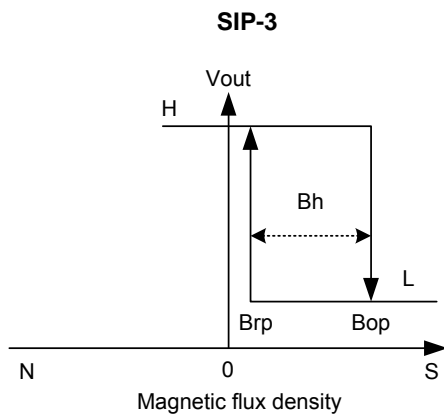
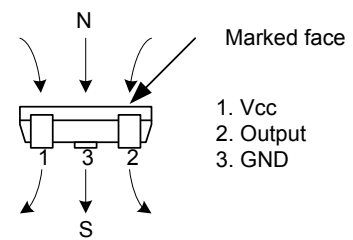
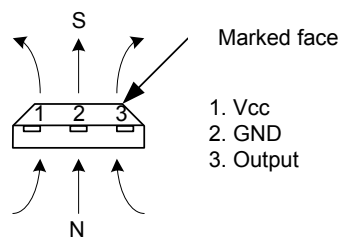
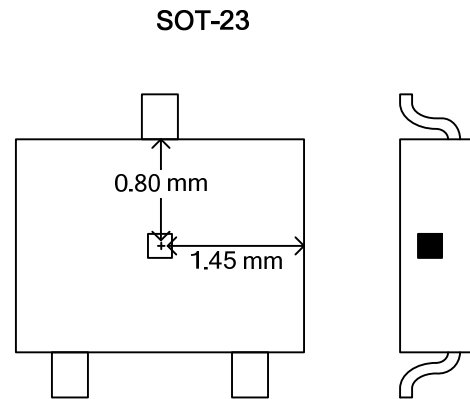
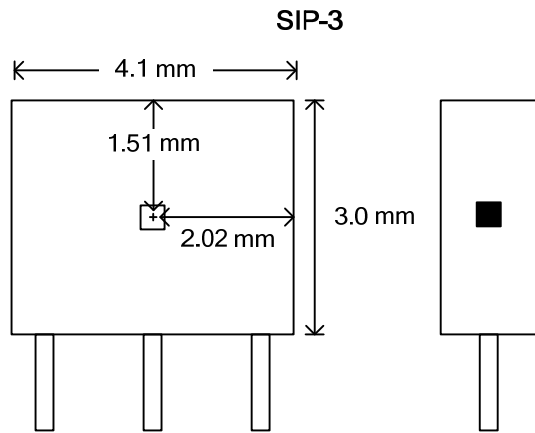
| PARAMETER             |         | SYMBOL    | RATINGS    | UNIT             |
|-----------------------|---------|-----------|------------|------------------|
| Supply voltage        |         | $V_{CC}$  | 2.5 ~ 20   | V                |
| Supply current        |         | $I_{CC}$  | 10         | mA               |
| Circuit current       |         | $I_o$     | 20         | mA               |
| Power dissipation     | SIP-3   | $P_D$     | 400        | mW               |
|                       | SOT-23  |           | 200        | mW               |
|                       | TSOT-23 |           | 180        |                  |
| Operating temperature |         | $T_{OPR}$ | -20 ~ +125 | $^\circ\text{C}$ |
| Storage temperature   |         | $T_{STG}$ | -55 ~ +150 | $^\circ\text{C}$ |

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.

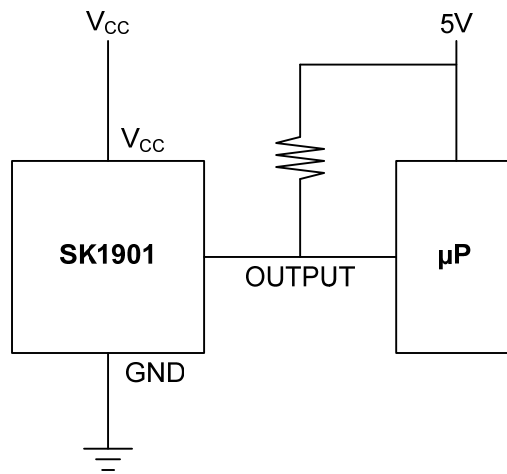
■ MAGNETIC CHARACTERISTICS (over operating supply voltage range.)

| PARAMETER     | SYMBOL    | CONDITIONS                   | MIN | TYP | MAX | UNIT |
|---------------|-----------|------------------------------|-----|-----|-----|------|
| Operate Point | $B_{OP}$  | at $T_A = +25^\circ\text{C}$ |     |     | 100 | G    |
| Release Point | $B_{RP}$  | at $T_A = +25^\circ\text{C}$ | 10  |     |     | G    |
| Hysteresis    | $B_{HYS}$ | at $T_A = +25^\circ\text{C}$ |     | 45  |     | G    |

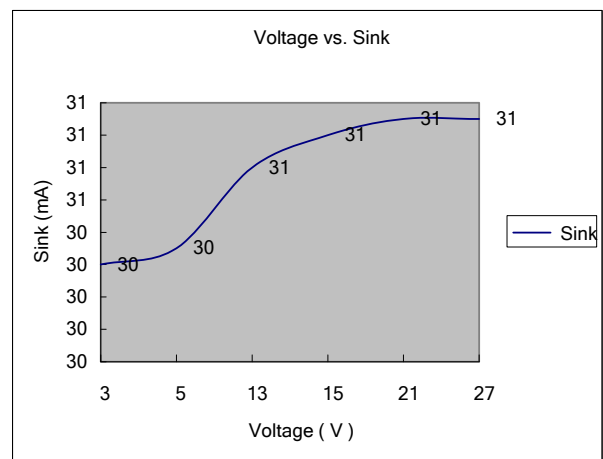
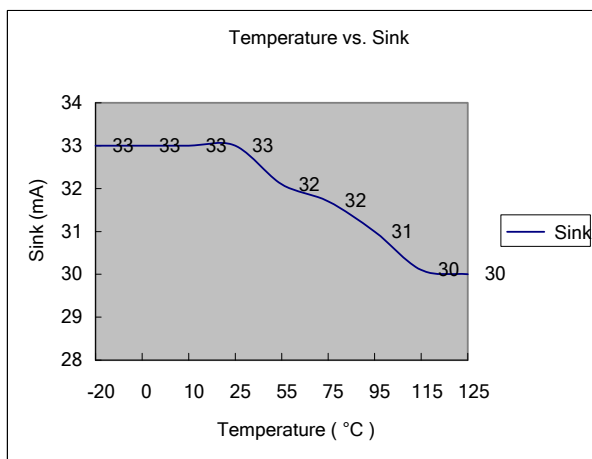
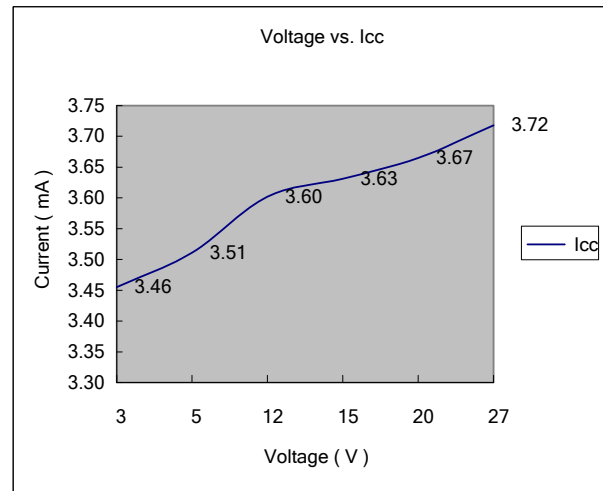
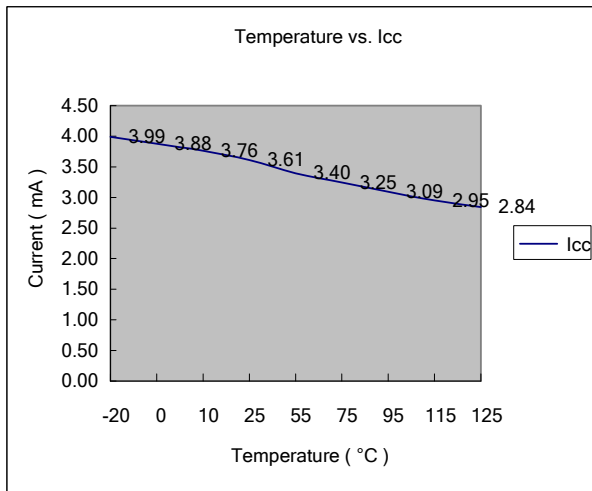
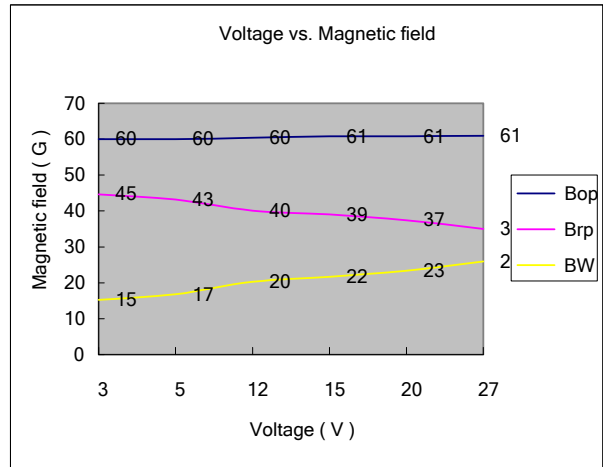
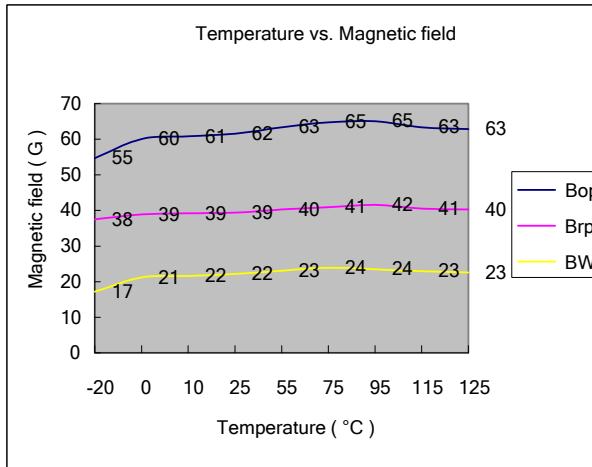
## PACKAGE INFORMATION



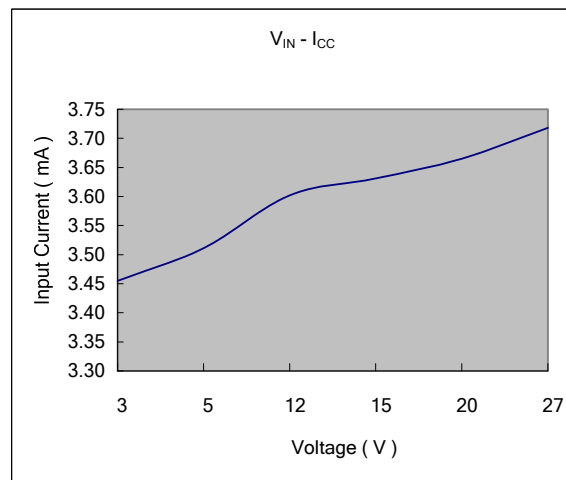
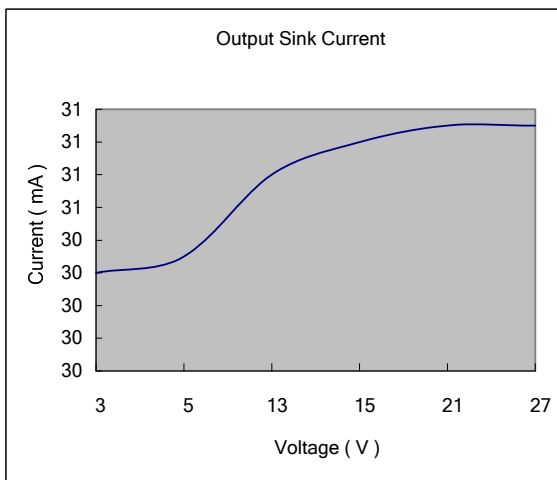
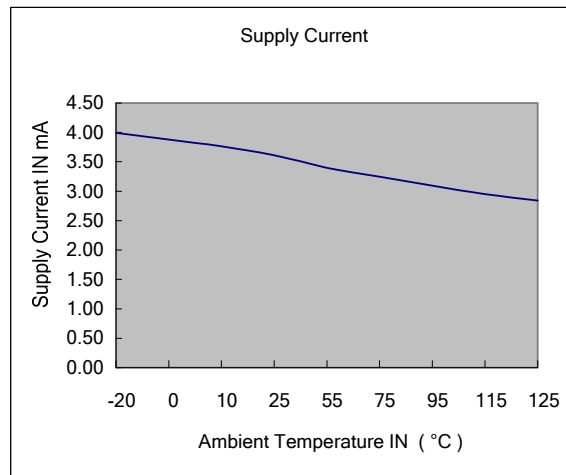
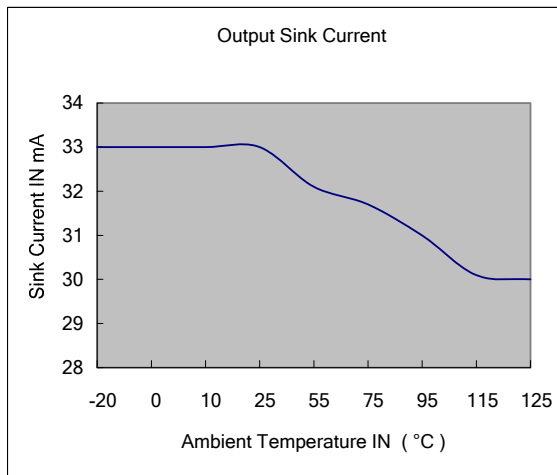
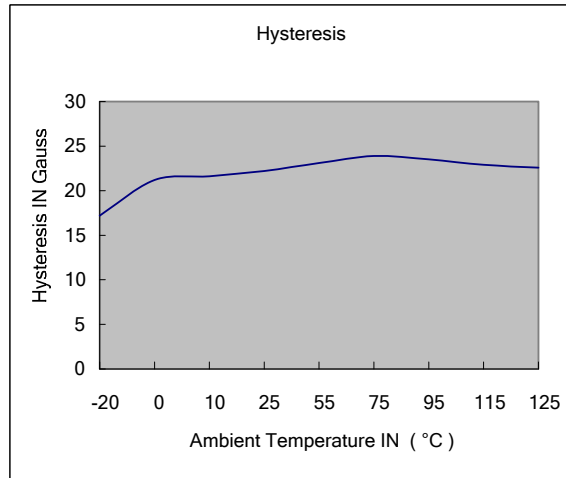
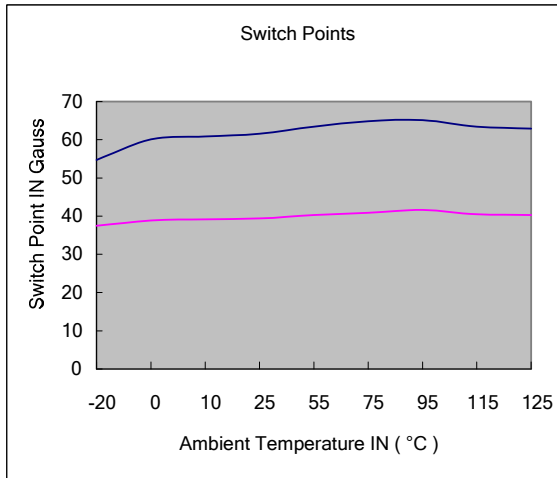
### ■ TYPICAL APPLICATION CIRCUIT



## TYPICAL OPERATING CHARACTERISTICS



■ TYPICAL OPERATING CHARACTERISTICS (Cont.)



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