



## UHS49

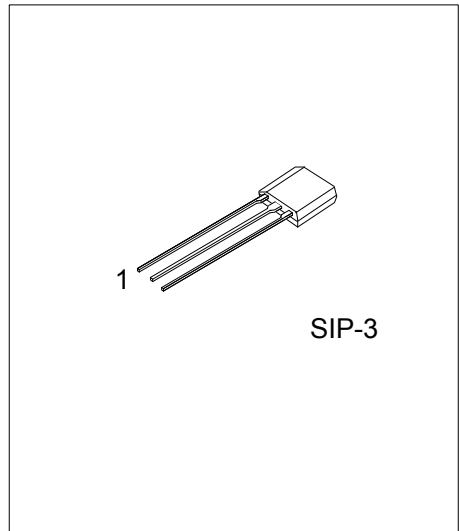
Preliminary

LINEAR INTEGRATED CIRCUIT

### LINEAR HALL EFFECT SENSOR

#### DESCRIPTION

UTC **UHS49** 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 IC 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 can be used for Motor control, Magnetic code reading, Ferrous metal detector, Current sensing and Position sensing.



#### FEATURES

- \* Low-Noise Output
- \* 4.5 V ~ 6 V Operation
- \* Magnetically Optimized Package
- \* Miniature construction
- \* Linear output for circuit design flexibility
- \* Wide ambient temperature range: -40°C ~ +85°C

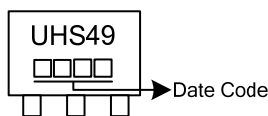
#### ORDERING INFORMATION

Ordering Number	Package	Pin Assignment			Packing
		1	2	3	
UHS49G-G03-B	SIP-3	I	G	O	Tape Box
UHS49G-G03-K	SIP-3	I	G	O	Bulk

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

<p>UHS49G-G03-R</p> <p>(1) Packing Type (2) Package Type (3) Green Package</p>	<p>(1) B: Tape Box, K: Bulk (2) G03: SIP-3 (3) G: Halogen Free and Lead Free</p>
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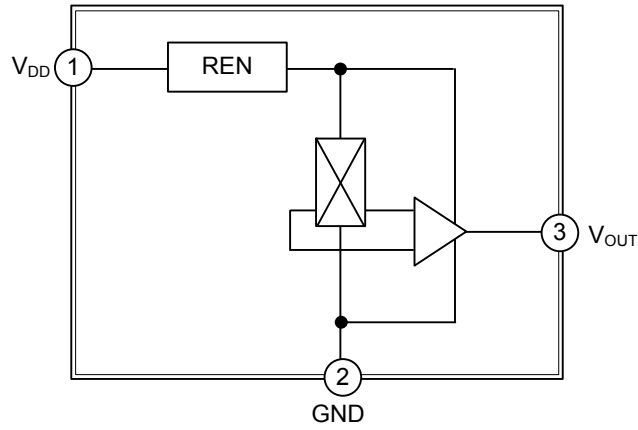
#### MARKING



■ PIN DESCRIPTION

PIN NO.	PIN NAME	DESCRIPTION
1	V <sub>DD</sub>	Supply Voltage
2	GND	IC Ground
3	V <sub>OUT</sub>	Output

■ BLOCK DIAGRAM



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

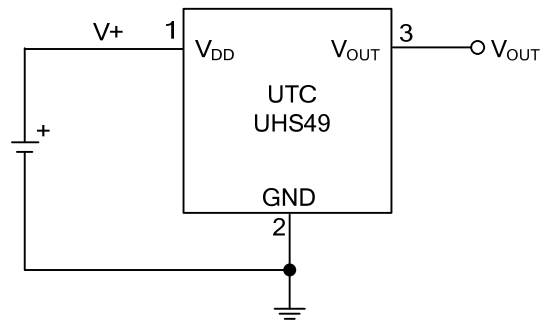
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	$V_{CC}$	8.0	V
Circuit Current	$I_O$	20	mA
Power Dissipation	$P_D$	400	mW
Operating Temperature	$T_{OPR}$	-30 ~ +125	$^\circ\text{C}$
Storage Temperature	$T_{STG}$	-40 ~ +150	$^\circ\text{C}$

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.

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

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
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		$\mu\text{S}$
Quiescent Output Voltage	$V_O$	B=0G		2.35		V
Sensitivity	$\Delta V_{OUT}$	$T_A=25^\circ\text{C}$		1.65		mV/G
Min Output Voltage		B=-500G		1.6		V
Max Output Voltage		B=500G		3.15		V

## ■ TYPICAL APPLICATION CIRCUIT



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