

UTC UNISONIC TECHNOLOGIES CO., LTD

## **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.



- \* Low-Noise Output
- \* 3.0 V ~ 6.5 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		Dookogo	Pin Assignment			Dooking	
Lead Free	Halogen Free	Гаскауе	1	2	3	Facking	
UHS49L-G03-B	UHS49G-G03-B	SIP-3	I	G	0	Tape Box	
UHS49L-G03-K	UHS49G-G03-K	SIP-3	I	G	0	Bulk	
Noto: Din Assignment: I:							

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

UHS49 <u>G</u> - <u>G03</u> -R		
	(1)Packing Type	(1) B: Tape Box, K: Bulk
	(2)Package Type	(2) G03: SIP-3
	(3)Green Package	(3) G: Halogen Free and Lead Free, L: Lead Free





Preliminary

#### 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<sub>A</sub>=25°C, unless otherwise specified)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sub>cc</sub>	8.0	V
Circuit Current	lo	20	mA
Power Dissipation	PD	400	mW
Operating Temperature	T <sub>OPR</sub>	-40 ~ +85	°C
Storage Temperature	T <sub>STG</sub>	-40 ~ +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<sub>A</sub>= 25°C, V<sub>DD</sub>= 5V)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Operating Voltage	Vcc	operating	3.0		6.5	V
Supply Current	lcc	Average		4.2	8.0	mA
Output Current	lout		1.0	1.5		mA
Response Time	Tack			3		μS
Quiescent Output Voltage	Vo	B=0G		2.35		V
Sensitivity	Δ V <sub>OUT</sub>	T <sub>A</sub> =25°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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