AH3503 SERIES LINEAR HALL-EFFECT SENSOR

Integrated circuit includes a voltage regulator, Hall-voltage generator, linear amplifier and emitter-follower out stage. The output of the Ics change linearity with the magnetic flux density of the input.

FEATURES

. Extremely Sensitive
. Flat response to 23kHz
. Low-Noise Output
. 4.5V to 6V Operation
. Magnetically Optimized Package

TYPICAL APPLICATION

. Motion detector
. Gear tooth sensors
. Proximity detector
. Velocity detecting of motor bicycle
. Current detecting sensor

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Supply voltage	V_{cc}	6	V
Magnetic flux density	B	不限	mT
Operating temperature range	T_A	-20~+85	℃
Storage temperature range	T_S	150	℃

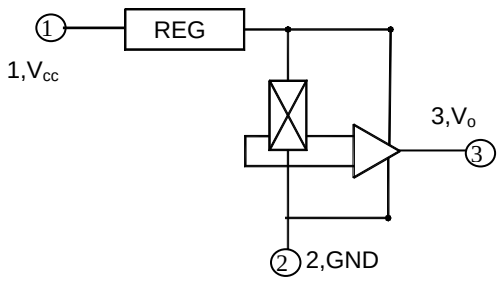
ELECTRICAL CHARACTERISTICS

T_A=25℃ 1mT=10Gs

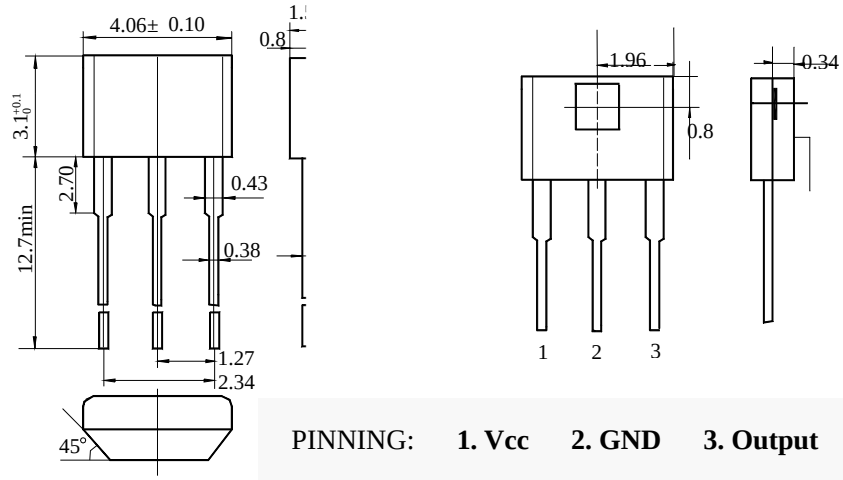
Characteristics	Symbol	Test conditions	Limits			Unit
			Min.	Typ.	Max.	
Operating voltage	V_{cc}		4.5	-	6	V
Supply current	I_{cc}		-	9	14	mA
Linearity range			-90	-	+90	mT
Quiescent output voltage	V_{out}	B=0	2.25	2.5	2.75	V
Sensitivity	S	B=±90mT	7..5	13..5	17..5	mV/mT
Output resistance	Ro		-	50	-	Ω

Note: All output-voltage measurement are made with a voltmeter having an input impedance of at lease 10KΩ.

FUNCTIONAL BLOCK DIAGRAM



PACKAGE (Unit：mm)



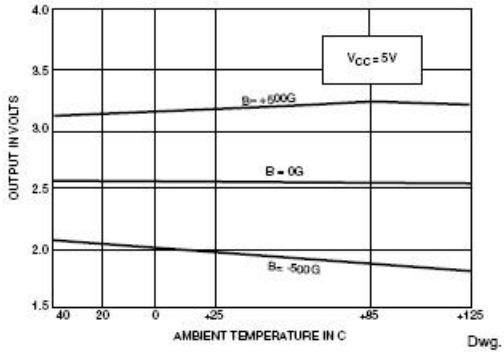
PINNING: **1. Vcc 2. GND 3. Output**

Cautions

1. When install, should as full as possible decrease the mechanical stress acting on the Hall IC, to avoid the influence of the operate point and release point.
2. On the premise of ensuring welding quality, use as possible as low welding temperature an short time.

CHARACTERISTICS CURVE

OUTPUT VOLTAGE AS A FUNCTION OF TEMPERATURE



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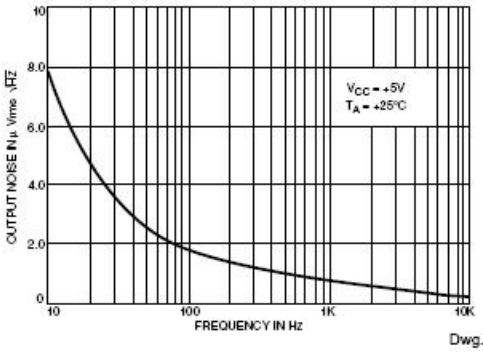
OUTPUT NOISE AS A FUNCTION OF FREQUENCY



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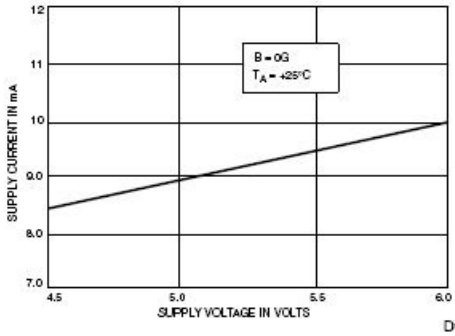
SUPPLY CURRENT AS A FUNCTION OF SUPPLY VOLTAGE



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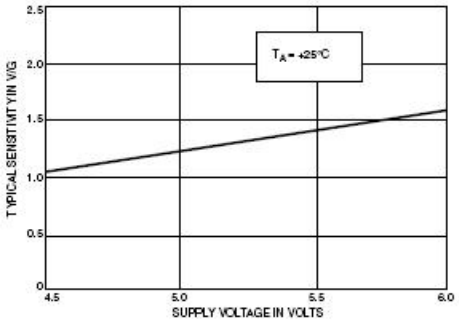
DEVICE SENSITIVITY AS A FUNCTION OF SUPPLY VOLTAGE



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