



Description

BDH8244 Hall-effect switch integrated circuits for high temperature operating based on Hall-effect principle, apply the semiconductor monolithic technology, which includes a voltage regulator, Hall voltage generator, differential amplifier, Schmitt trigger and an open-collector output on a single silicon chip.

ICs can convert the input magnetic field signal into digital voltage output.

Features

- Small size
- High Sensitivity
- Quick Response
- Good Temperature Performance
- High Accuracy
- Excellent Reliability

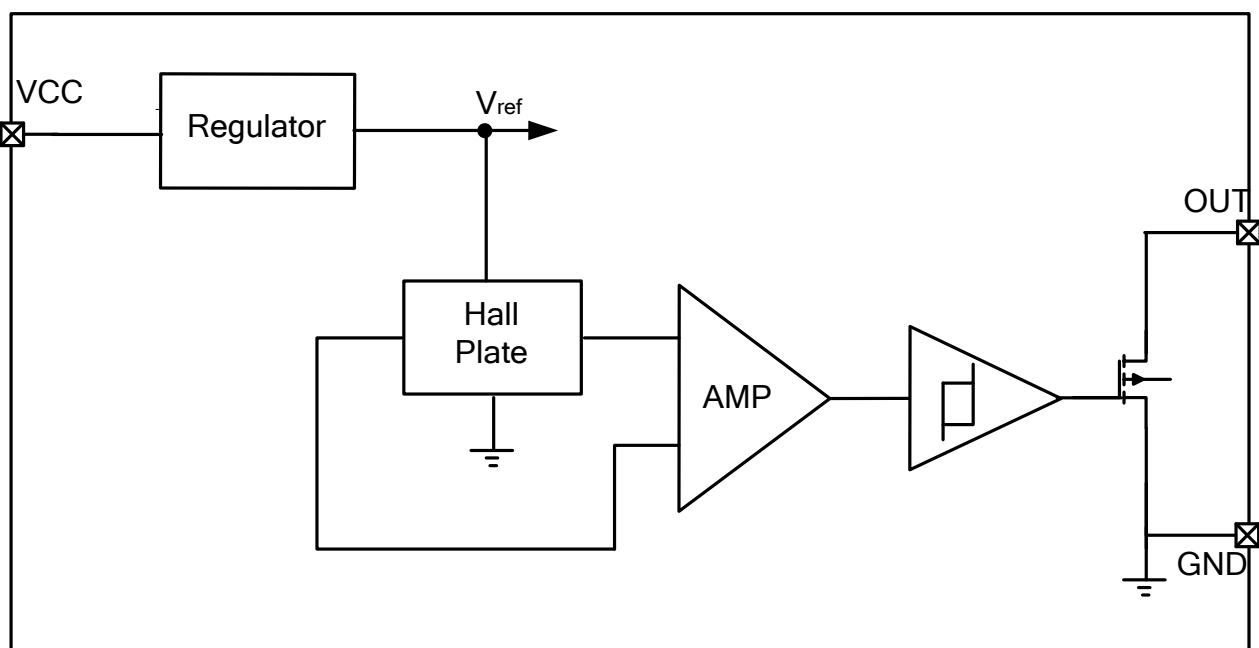
Application

- Non-contact Switch
- Brake ICs
- Position control
- Revolution detection
- Safe alarm device
- Textile control system

Order Information

Part No.	Operating Temp.	Vcc	IO(MAX.)	Package	Note
BDH8244	-40~125°C	4.5-24V	25mA	TO-92S/SOT23-3	1K/3K

Functional Block Diagram

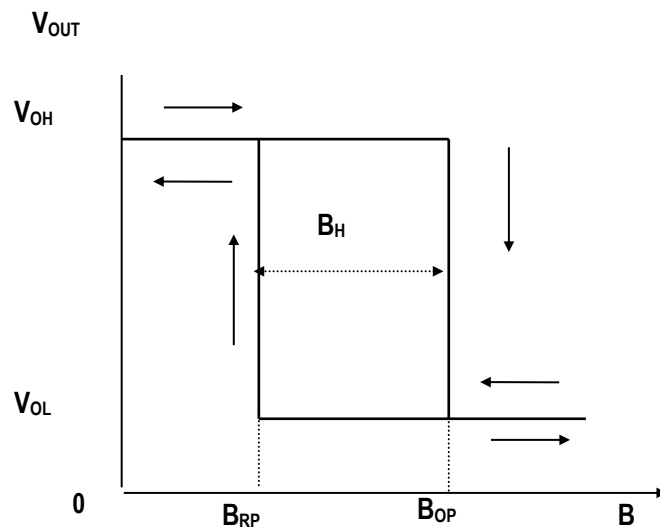




Absolute Maximum Ratings

Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V _{CC}	4.5	-	24	V
Output Current	I _O		25		mA
Operating Temperature Range	T _A	-40		125	°C
Storage Temperature Range	T _S	-65		150	°C

Magnetic-electrical transfer characteristics



Electrical Characteristics T_A=25°C

Parameter	Test Condition	Symbol	Value			Unit
			Min	Typ	Max	
Supply Voltage	V _{CC} =24V	V _{CC}	4.5	-	24	V
Output Low Voltage	V _{CC} =24V I _O =25mA, B ≥ B _{OP}	V _{OL}	-	175	400	mV
Output Leakage Current	V _O =24V, B < B _{RP}	I _{OH}	-	<0.5	10	μ A
Supply Current	V _{CC} =24V V _O open-collector output	I _{CC}	-	3.5	8	mA
Output Rise time	V _{CC} =12V R _L =820 Ω C _L =20pF	t _r	-	0.2	-	μ S
Output Fall time		t _f	-	0.18	-	μ S



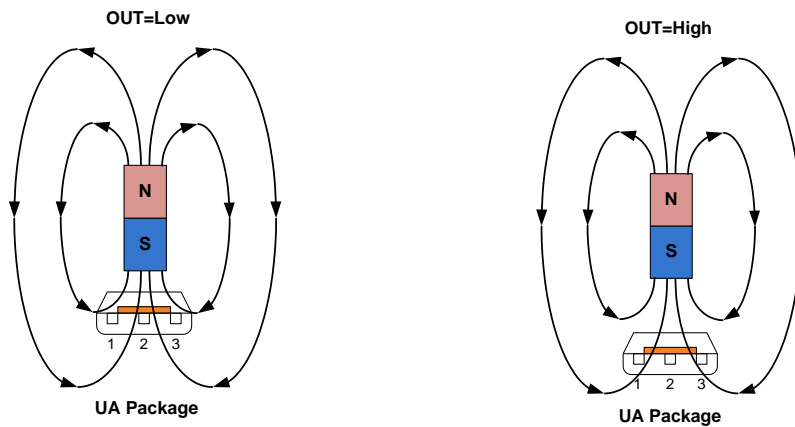
Magnetic Characteristics (Unit: mT)

Parameter	symbol	Value			Unit
		Min	Typ	Max	
Operate Point	B _{OP}	-	15	22	mT
Release Point	B _{RP}	2	11	-	mT
Hysteresis	B _{hys}	-	4	-	mT

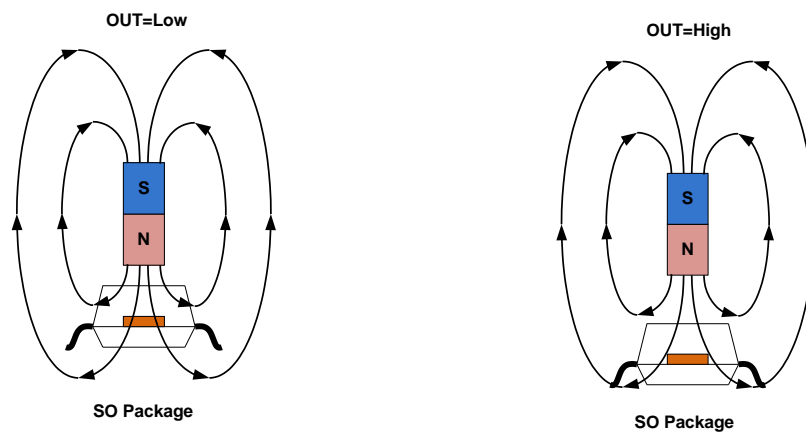
Field Direction Definition

A positive magnetic field is defined as a south pole near the marked side of the package.

TO-92S Package



SOT23-3 Package



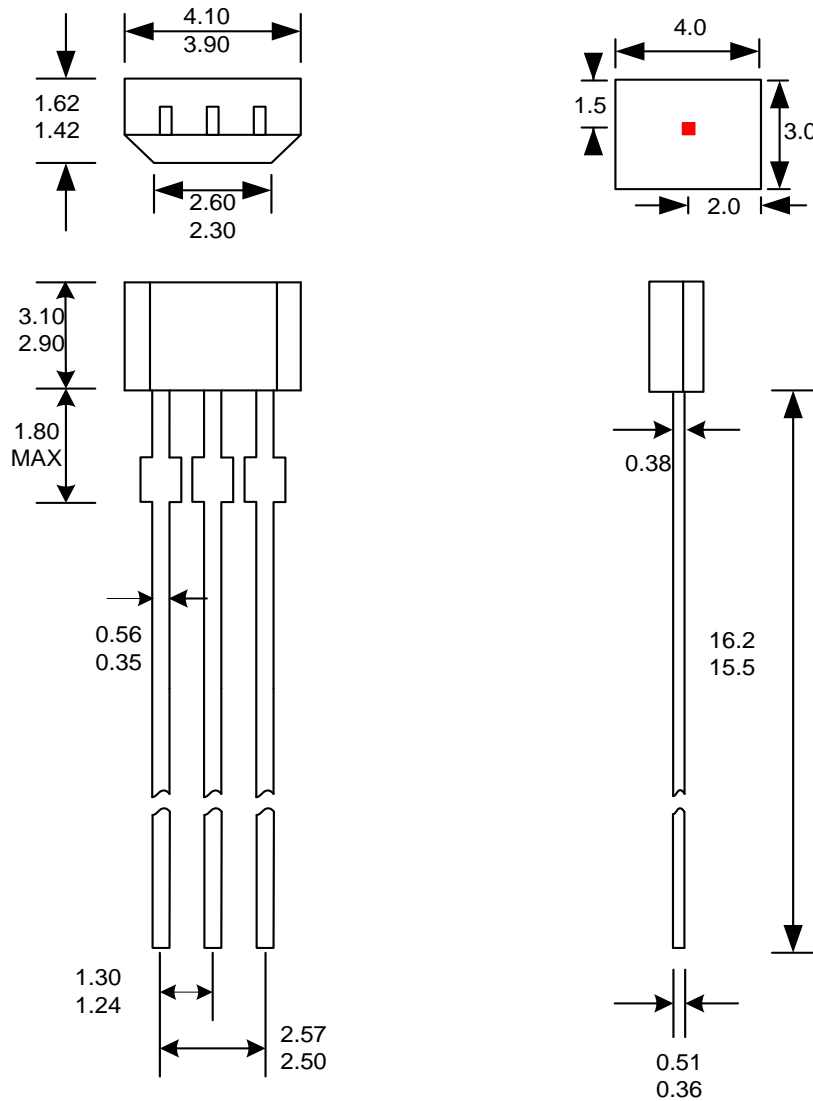


Package Dimensions

Package Designator (TO-92S)

3-Terminal
UA Package

Dimension:mm



Notes:

1. Exact body and lead configuration at vendor's option within limits shown.
2. Height does not include mold gate flash.

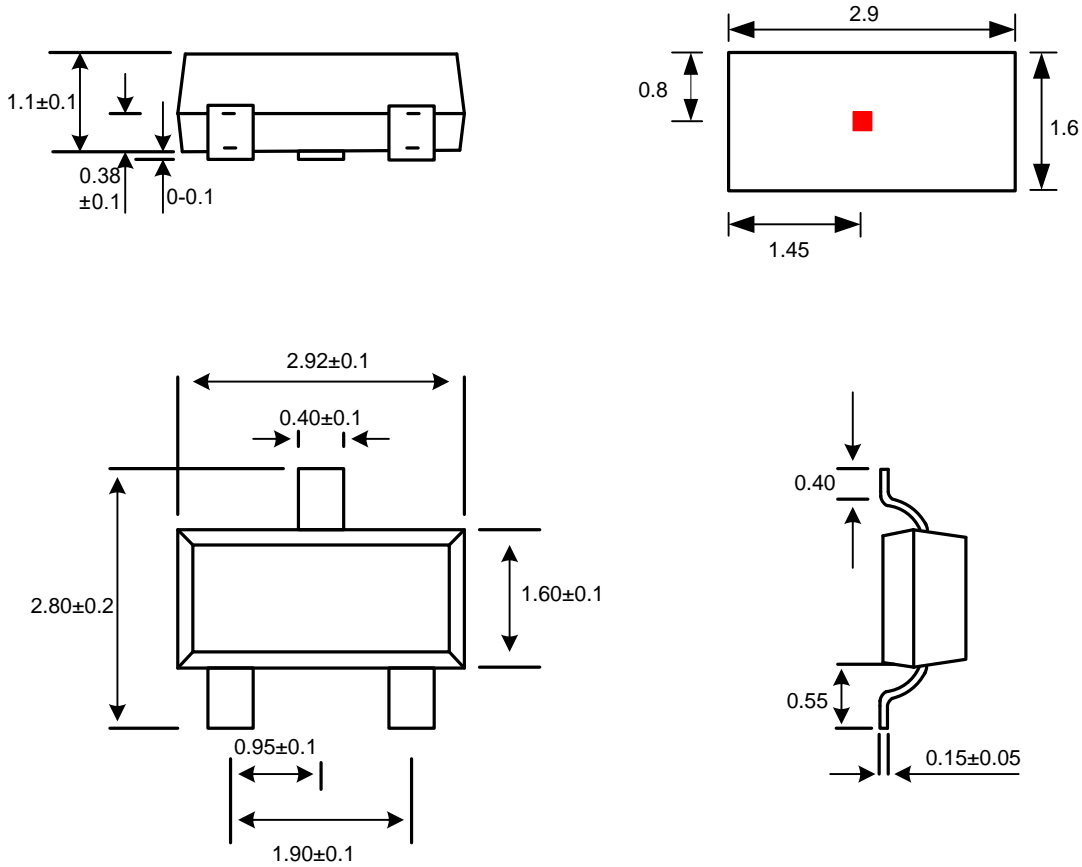
Where no tolerance is specified, dimension is nominal.



Package Designator (SOT23-3)

3-Terminal
SO Package

Dimension:mm



Notes:

1. Exact body and lead configuration at vendor's option within limits shown.
2. Height does not include mold gate flash.

Where no tolerance is specified, dimension is nominal.



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