



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



## DN8899/SE/TE/S

Hall IC (Operating Temperature Range  
 $T_{opr} = -40$  to  $+100^{\circ}\text{C}$ ,  
 Operating in Alternative Magnetic Field)

### Overview

The DN8899/SE/TE/S is a combination of a Hall element, amplifier, Schmitt circuit, and stabilized power supply/temperature compensator integrated on an identical chip by using the IC technology. It amplifies Hall element output at the amplifier, converts into a digital signal through the Schmitt circuit, and drives the TTL or MOS IC directly.

### Features

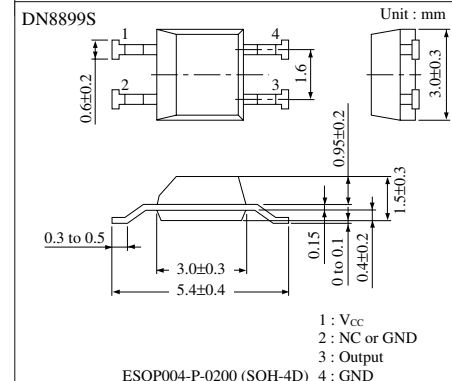
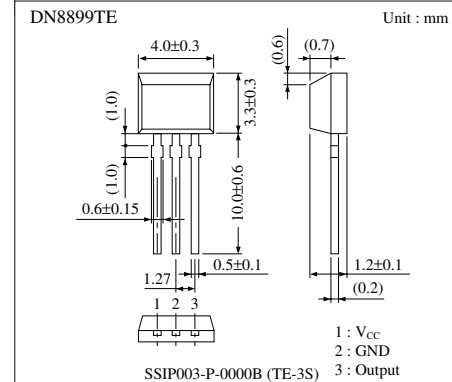
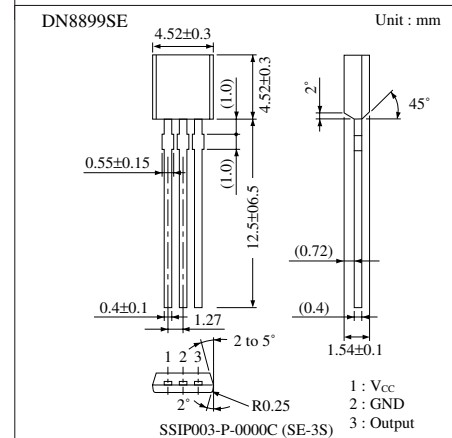
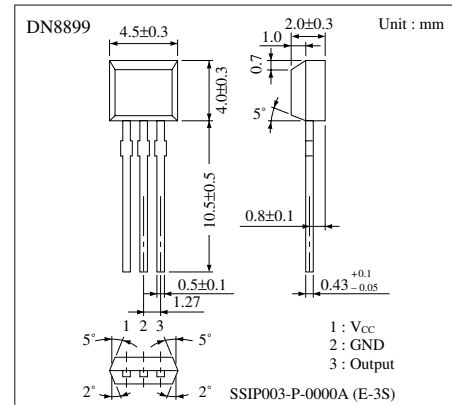
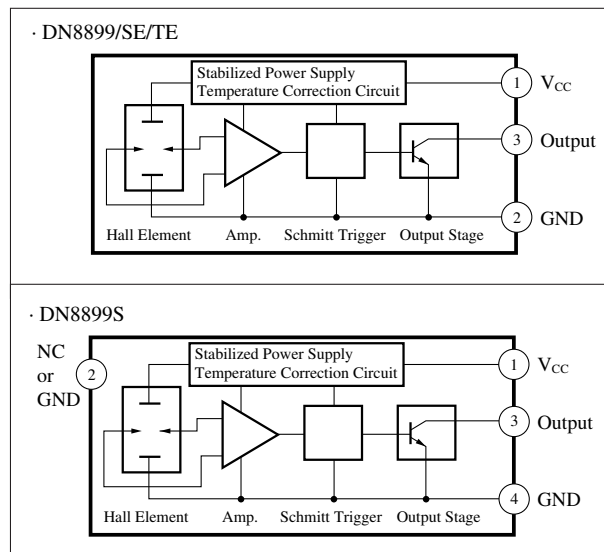
- High sensitivity and low drift
- Stable temperature characteristics due to the additional temperature compensator
- Wide operating supply voltage range ( $V_{CC} = 4.5$  to  $16\text{V}$ )
- Operating in alternative magnetic field
- TTL and MOS ICs directly drivable by output
- Semipermanent service life due to no contact parts
- Small change of the operating flux density against mechanical stress
- Output open collector
- "0" gauss point in the zero cross type hysteresis width

### Applications

- Speed sensors
- Position sensors
- Rotation sensors
- Keyboard switches
- Microswitches

Note) This IC is not suitable for the car electric equipment.

### Block Diagram



## ■ Absolute Maximum Ratings (Ta=25°C)

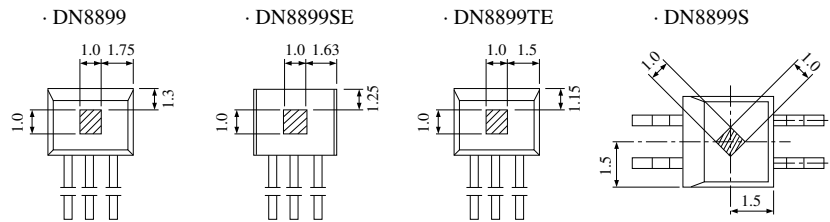
Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	18	V
Supply current	$I_{CC}$	8	mA
Circuit current	$I_O$	20	mA
Power dissipation	$P_D$	150	mW
Operating ambient temperature	$T_{opr}$	-40 to +100	°C
Storage temperature	$T_{stg}$	-55 to +125	°C

## ■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Operating flux density	$B_1$ (L→H)	$V_{CC}=12V$	-12	-6	-0.1	mT
	$B_2$ (H→L)	$V_{CC}=12V$	0.1	6	12	mT
Hysteresis width	BW	$V_{CC}=12V$	7	10	—	mT
Low output voltage	$V_{OL}$	$V_{CC}=4.5$ to 16V, $I_O=12mA$ , $B=12mT$	—	—	0.4	V
High output current	$I_{OH}$	$V_{CC}=4.5$ to 16V, $V_O=16V$ , $B=-12mT$	—	—	10	μA
Supply current	$I_{CC}$	$V_{CC}=16V$	—	—	6	mA
		$V_{CC}=4.5V$	—	—	5.5	mA

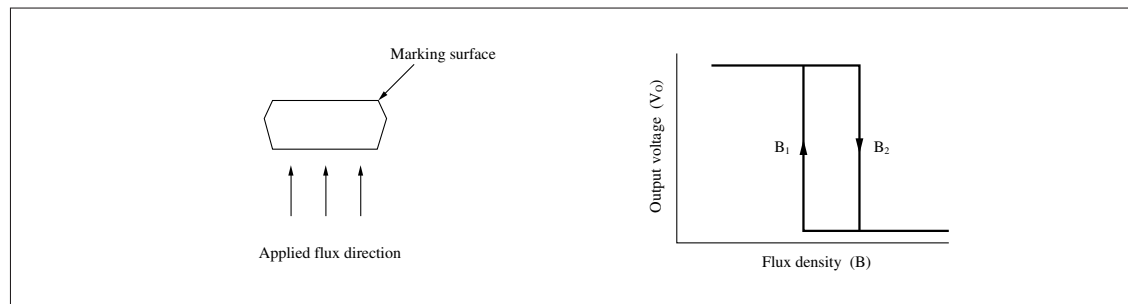
## ■ Hall Element Position

Unit : mm  
The center of the Hall element is in the hatched area in the right figure.



Distance from package surface to sensor (mm)	DN8899	DN8899SE	DN8899TE	DN8899S
		0.7	0.42	0.4

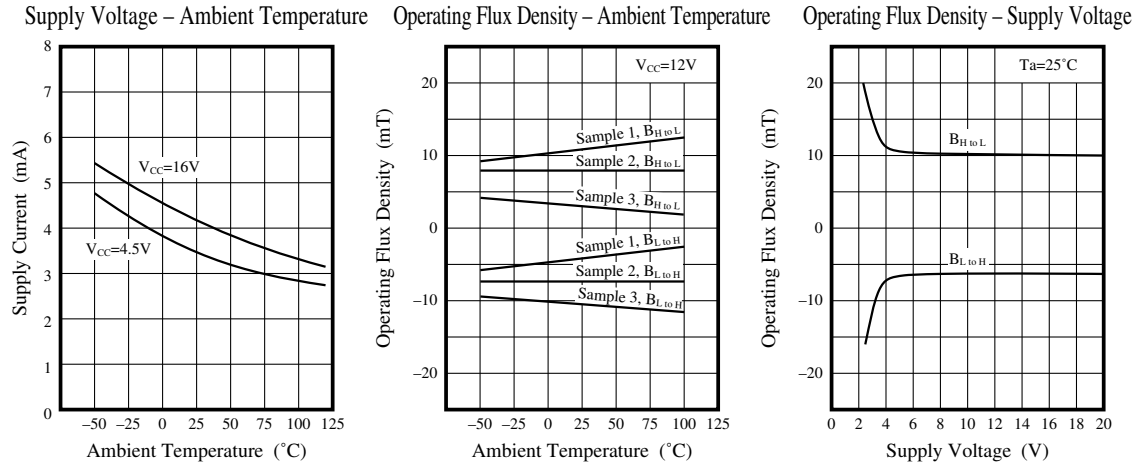
## ■ Flux-Voltage Conversion Characteristics



## ■ Supplementary Descriptions

1. Change of the operation magnetic flux density dose not depend on the supply voltage, because the stabilization power supply is built in. (only for the range ;  $V_{CC}=4.5$  to 16V)
2. Change from "H" to "L" level increases the supply current by approx. 1mA.

## ■ Characteristics Curve



## Output Low Level Voltage – Ambient Temperature

