

Magnetic Sensor IC

Dual Channel Bipolar Latch Detection High Performance Hall-Effect Sensor IC



AS1622/N

● General Description

Using BiCMOS process, the AS1622/N is designed for high performance dual channel latch detection hall-effect application, each providing a separate digital output for speed and direction signal processing capability. The Hall elements are photo-lithographically aligned to better than 1 μ m. Maintaining accurate mechanical location between the two active Hall elements eliminates the major manufacturing hurdle encountered in fine-pitch detection applications. The AS1622/N is a highly sensitivity, temperature stable magnetic sensing device ideal for use in ring magnet based, speed and direction systems located in harsh automotive and industrial environments.

The Hall elements of the AS1622/N are spaced 0.95mm apart, which provides excellent speed and direction information for small-geometry targets. Extremely low-drift amplifiers guarantee symmetry between the switches to maintain signal quadrature. An on-chip regulator allows the use of this device over a wide operating voltage range of 2.5 to 30V.

AS1622/N is designed to respond to alternating North and South poles. While the magnetic flux density (B) is larger than operate point (B_{OP}), the output will be turned on (low), the output is held until the magnetic flux density (B) is lower than release point (B_{RP}), then turn off (high).

The device is available in SIP-4L Package and is rated over the -40°C to 150°C. the package is RoHS compliant.

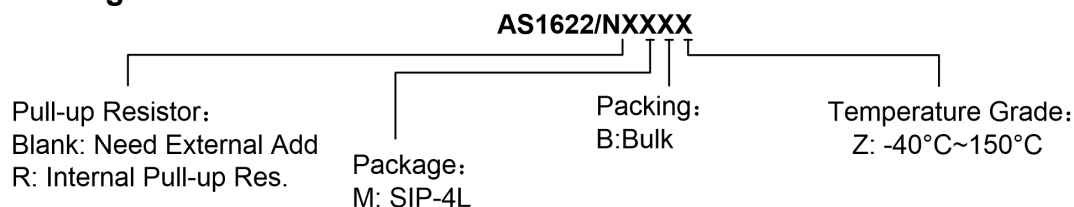
● Features

- High Performance BiCMOS Process Tech.
- Dual Channel Matched Hall Switches on a Substrate
- Input Voltage Range : 2.5V to 30V
- Reverse Battery Protection
- Resistant to physical stress
- Bipolar Latch Operation
- High Sensitivity Hall Sensor
- High Chopping Frequency
- Magnetic Sensitivity (typical)
 - ✓ AS1662: $B_{OPS}=20\text{Gauss}$, $B_{RPN}=-20\text{Gauss}$
 - ✓ AS1662R: $B_{OPS}=20\text{Gauss}$, $B_{RPN}=-20\text{Gauss}$
 - ✓ AS1662N: $B_{OPN}=-20\text{Gauss}$, $B_{RPS}=20\text{Gauss}$
 - ✓ AS1662NR: $B_{OP}=-20\text{Gauss}$, $B_{RP}=20\text{Gauss}$
- AS1622R/NR Integrated Pull-up Resistor
- AS1622/N Open Drain Output
- Small Solution Size
- RoHS Compliant
- SIP-4L Package
- -40°C to +150°C Temperature Range

● Applications

- Anti-pinch Electric Motor Control
- Magnetic Encoder
- Rotating Shaft Monitoring
- Garage Door Openers
- Power Sliding Doors
- Sunroofs Motor
- Current Commutation

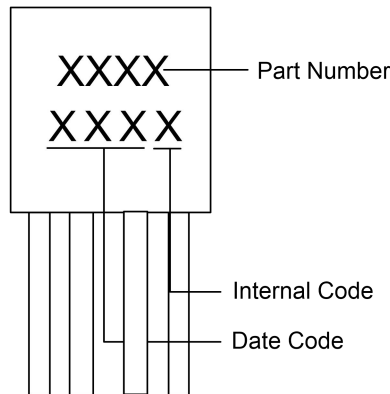
■ Ordering Information



Part Number	B_{OP} (Gauss)	B_{RP} (Gauss)	Pull-up Res.	Package Type	Package Qty	Temperature	Eco Plan
AS1622MBZ	+20	-20	External	SIP-4L	500pcs/Package	-40~150°C	RoHS
AS1622RMBZ	+20	-20	Internal	SIP-4L	500pcs/Package	-40~150°C	RoHS
AS1622NMBZ	-20	+20	External	SIP-4L	500pcs/Package	-40~150°C	RoHS
AS1622NRMBZ	-20	+20	Internal	SIP-4L	500pcs/Package	-40~150°C	RoHS

■ **Marking Information**

SIP-4L:



■ **Typical Application Circuit**

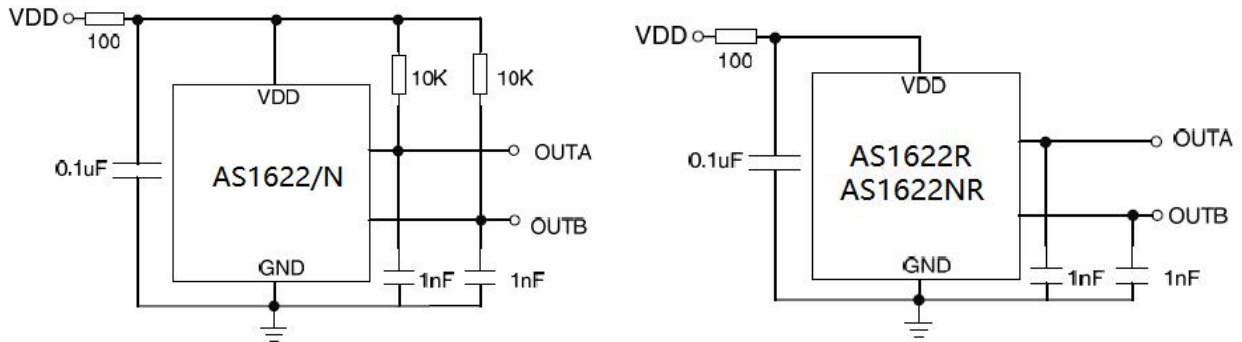


Figure 1, Typical Application Circuit of AS1622/N

■ **Pin Configuration**

SIP-4L (Top View)

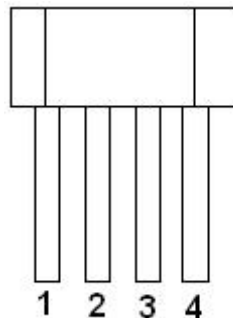


Figure 2, Pin Assignments of AS1622/N

Pin Name	Pin No.	I/O	Pin Function
	SIP-4L		
VDD	1	P	Input Power Supply
OUTA	2	O	A Channel Output
OUTB	3	O	B Channel Output
GND	4	P	Ground