AS5215

Programmable 360º Magnetic Angle Encoder with Buffered SINE & COSINE Output Signals

1 General Description

The AS5215 is a redundant, contactless rotary encoder sensor for accurate angular measurement over a full turn of 360º and over an extended ambient temperature range of -40ºC…+150ºC.

Based on an integrated Hall element array, the angular position of a simple two-pole magnet is translated into analog output voltages. The angle information is provided by means of buffered sine and cosine voltages. This approach gives maximum flexibility in system design, as it can be directly integrated into existing architectures and optimized for various applications in terms of speed and accuracy.

With two independent dies in one package, the device offers true redundancy. Usually the bottom die, which is exposed to slightly less magnetic field is employed for plausibility check.

An SSI Interface is implemented for signal path configuration as well as a one time programmable register block (OTP), which allows the customer to adjust the signal path gain to adjust for different mechanical constraints and magnetic field.
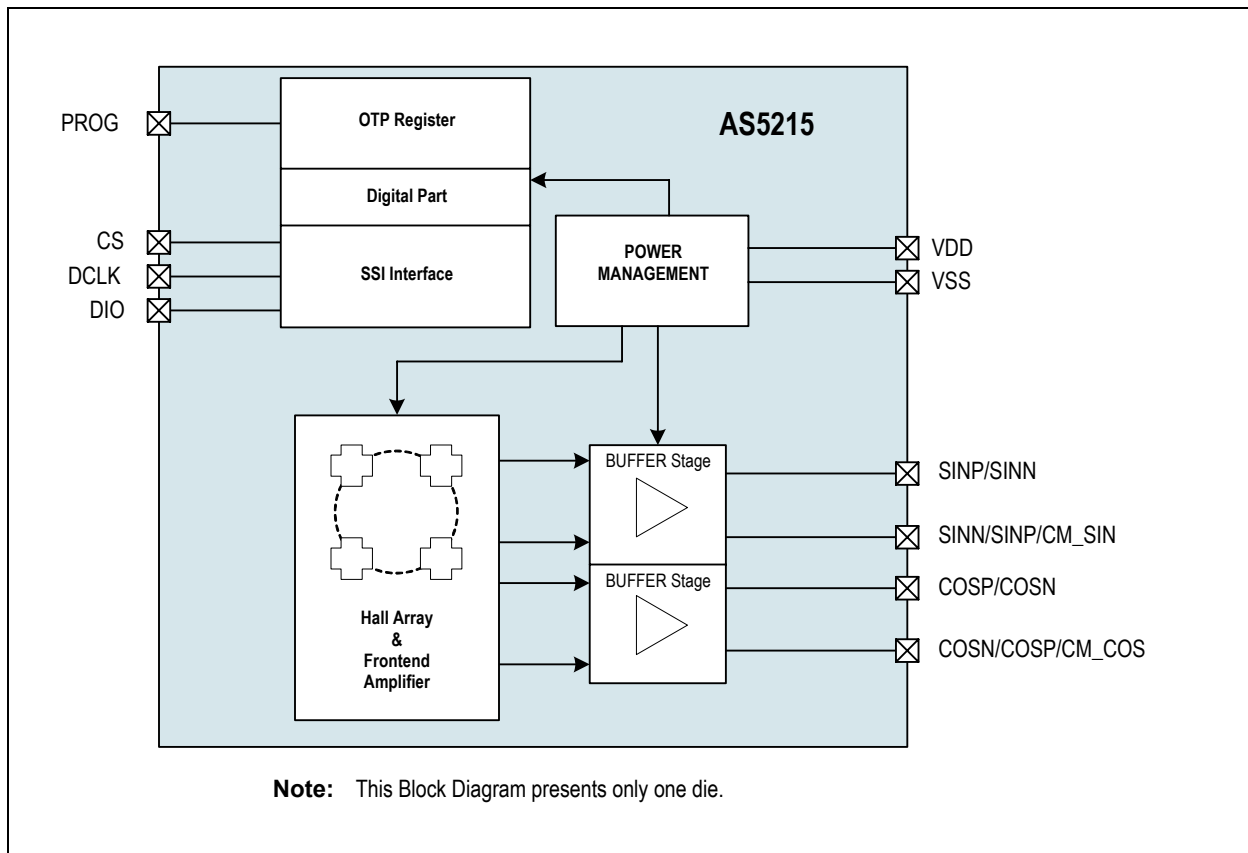
2 Key Features

- Contactless angular position encoding
- High precision analog output
- Buffered Sine and Cosine signals
- SSI Interface
- Low power mode
- Two programmable output modes: Differential or Single ended
- Wide magnetic field input range: 20 – 80 mT
- Wide temperature range: -40ºC to +150ºC
- Fully automotive qualified to AEC-Q100, grade 0
- Thin punched 32-pin QFN (7x7mm) package

3 Applications

The AS5215 is ideal for Electronic Power Steering systems and general purpose for automotive or industrial applications in microcontroller-based systems.

Figure 1. AS5215 Block Diagram

Note: This Block Diagram presents only one die.

4 Ordering Information

The devices are available as the standard products shown in Table 1.

Table 1. Ordering Information

Ordering Code	Description	Delivery Form	Package
AS5215-HQFT	Sine and cosine analog output magnetic rotary encoder	Tape & Reel	32-pin QFN (7x7mm)

Note: All products are RoHS compliant and Pb-free.
Buy our products or get free samples online at ICdirect: http://www.austriamicrosystems.com/ICdirect

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