

## XtremeSense™ Z-Axis TMR Analog Sensor

### FEATURES AND BENEFITS

- High sensitivity: 0.08 mV/V/G
- Operating magnetic field range:  $\pm 1500$  G
- Stable magnetic performance over temperature
- Hysteresis error as low as  $\pm 20$   $\mu$ V/V
- Full-bridge resistor network: 3.5 k $\Omega$
- Differential or single-ended outputs
- Wide operating supply and temperature range
  - 1 V to 5.5 V
  - $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Small wafer-level fan-out package (WLFOP)
  - 0.8 mm  $\times$  0.5 mm  $\times$  0.25 mm

### PACKAGE

4-pin WLFOP (suffix FB)



*Not to scale*

### DESCRIPTION

The CT130 is a one-dimensional (1D), linear, tunneling magneto-resistance (TMR) sensor that is sensitive along the Z-axis (monolithic design, no flux guide). The CT130 is configured in a full-bridge developed on patented XtremeSense™ TMR technology. The total magnetic field range for the CT130 is from  $-1500$  G to  $1500$  G, providing XtremeSense performance to achieve unparalleled temperature stability across the full temperature range. Most importantly, the CT130 has very low noise, which enables a high signal-to-noise ratio (SNR) for applications that demand high accuracy and precision. The CT130 supports a wide operating voltage range of 1 V to 5.5 V.

The CT130 is available in a low-profile, very-small-form-factor package optimized for camera module applications: a four-lead WLFOP (suffix FB) with dimensions of 0.8 mm  $\times$  0.5  $\times$  0.25 mm.

### APPLICATIONS

- Camera modules
  - Optical image stabilization (OIS)
  - Periscope
  - Automatic focus (autofocus)
- Gaming
- Internet of things (IoT)

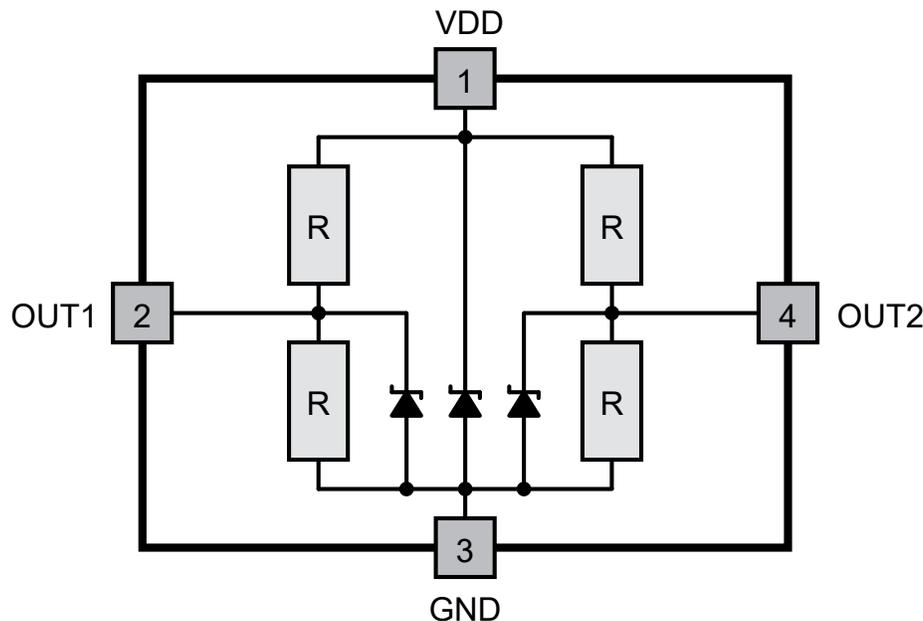


Figure 1: Functional Block Diagram

**SELECTION GUIDE**

Part Number	Output Type	Operating Temperature	Package	Lead Finish	Eco Plan [1]	MSL Rating [2]	Packing
CT130LN-IF4	Differential	-40°C to 85°C	FB (4-pin WLFOP)	Sn	Green and RoHS-compliant	1	7" Tape and Reel (Order Increments of 5000)

[1] RoHS is defined as semiconductor products that are compliant with the current EU RoHS requirements. It also meets the requirement that a restricted hazardous substance does not exceed 0.1% by weight in the homogeneous material. Green is defined as the content of chlorine (Cl), bromine (Br), and antimony-trioxide-based flame retardants satisfy the JS709B low-halogen requirement of  $\leq 1,000$  parts per million (ppm).

[2] The Moisture Sensitivity Level (MSL) rating is defined by JEDEC standard classifications.



PACKAGE OUTLINE DRAWING

For Reference Only – Not for Tooling Use

(Reference DWG-0000975, Rev. 1, PRELIMINARY)

Dimensions in millimeters

NOT TO SCALE

Exact case and lead configuration at supplier discretion within limits shown

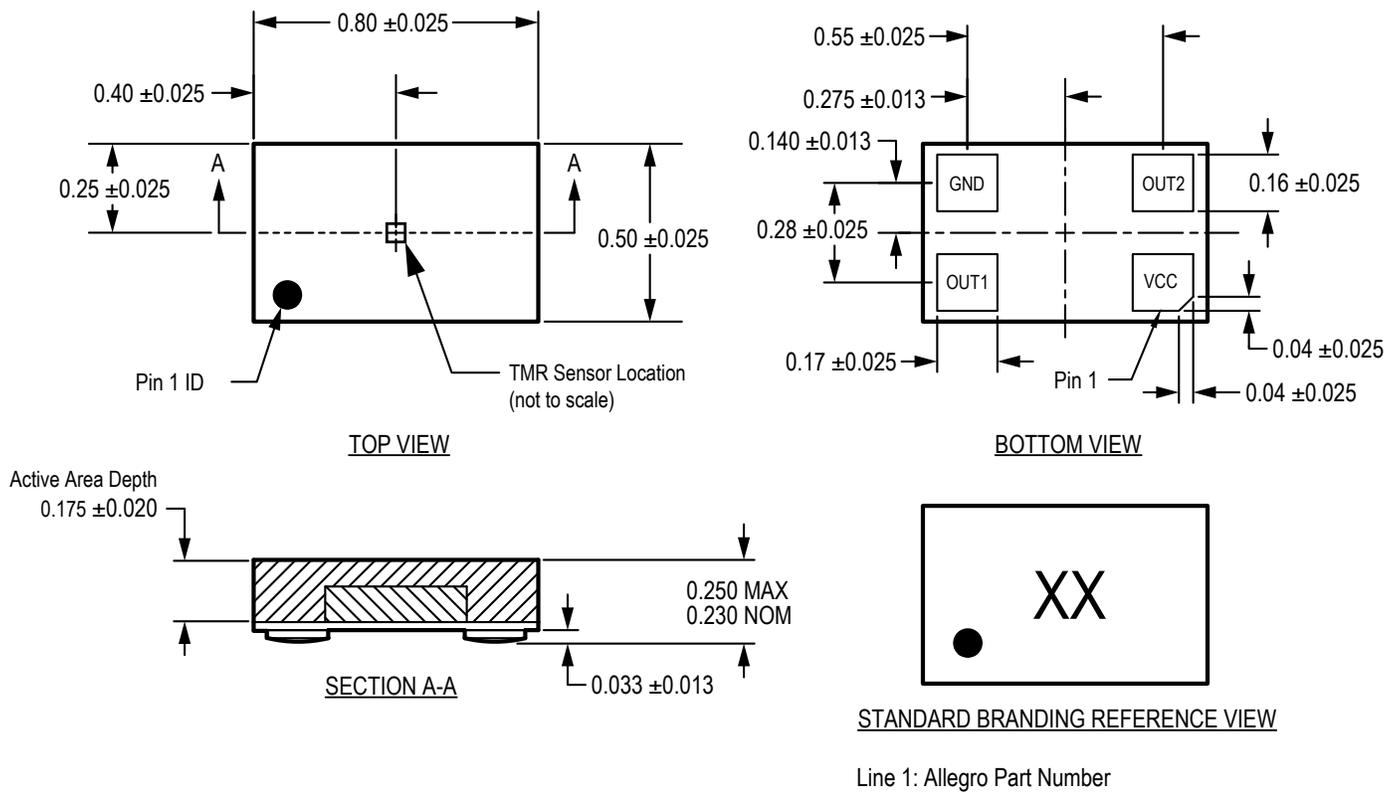


Figure 2: Package FB, 4-Pin Wafer-Level Fan-Out Package (WLFOP)

## Revision History

Number	Date	Description
–	March 3, 2026	Initial release
1	March 20, 2026	Initial release to Allegro website (short-form only)

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