

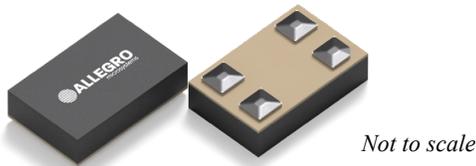
XtremeSense™ 1D Rotational TMR Sensor

FEATURES AND BENEFITS

- High sensitivity
- Operating magnetic field range: 100 G to 800 G
- Stable magnetic performance over temperature
- Full-bridge resistor network: 1 kΩ
- Differential outputs
- Wide operational angle: $\pm 45^\circ$
- Wide operating supply and temperature range
 - 1 V to 5.5 V
 - -40°C to 85°C
- Small wafer-level fan-out package (WLFOP)
 - $0.8\text{ mm} \times 0.5\text{ mm} \times 0.25\text{ mm}$

PACKAGE

4-pin WLFOP (suffix FB)



DESCRIPTION

The CT120 is a one-dimensional (1D) rotational tunneling magnetoresistance (TMR) sensor that responds to the angle of the applied magnetic field in the X-Y plane. The CT120 is configured in a full-bridge developed on patented XtremeSense™ TMR technology. The total magnetic field range for the CT120 is from 100 G to 800 G, achieving low linearity error over the operational rotation angle of $\pm 45^\circ$ while providing XtremeSense performance to achieve unparalleled temperature stability across the full operational temperature range. The CT120 supports a wide operating voltage range of 1 V to 5.5 V.

The CT120 is available in a low-profile, very-small-form-factor package optimized for camera-module applications: a 4-lead WLFOP (suffix FB) with dimensions of $0.8\text{ mm} \times 0.5\text{ mm} \times 0.25\text{ mm}$.

APPLICATIONS

- 1D rotational sensing for linear measurements
- Camera modules
 - Optical image stabilization (OIS)
 - Periscope
 - Autofocus

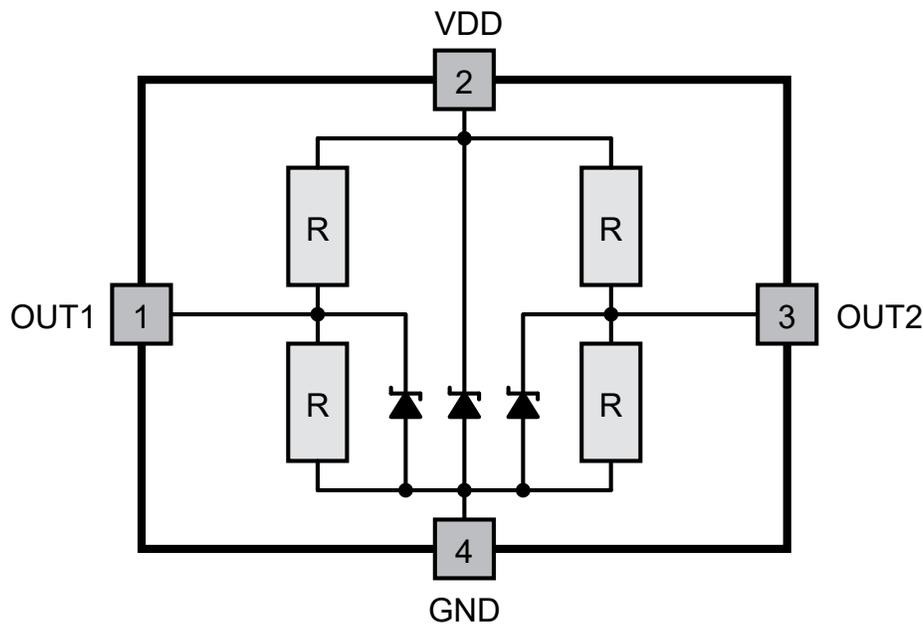


Figure 1: Functional Block Diagram

SELECTION GUIDE

Part Number	Output Type	Operating Temperature	Package	Lead Finish	Eco Plan [1]	MSL Rating [2]	Packing
CT120KW-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 a semiconductor product that is compliant with the current EU 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 satisfies 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-0000977, Rev. 1, PRELIMINARY)

Dimensions in millimeters

NOT TO SCALE

Exact case and lead configuration at supplier discretion within limits shown

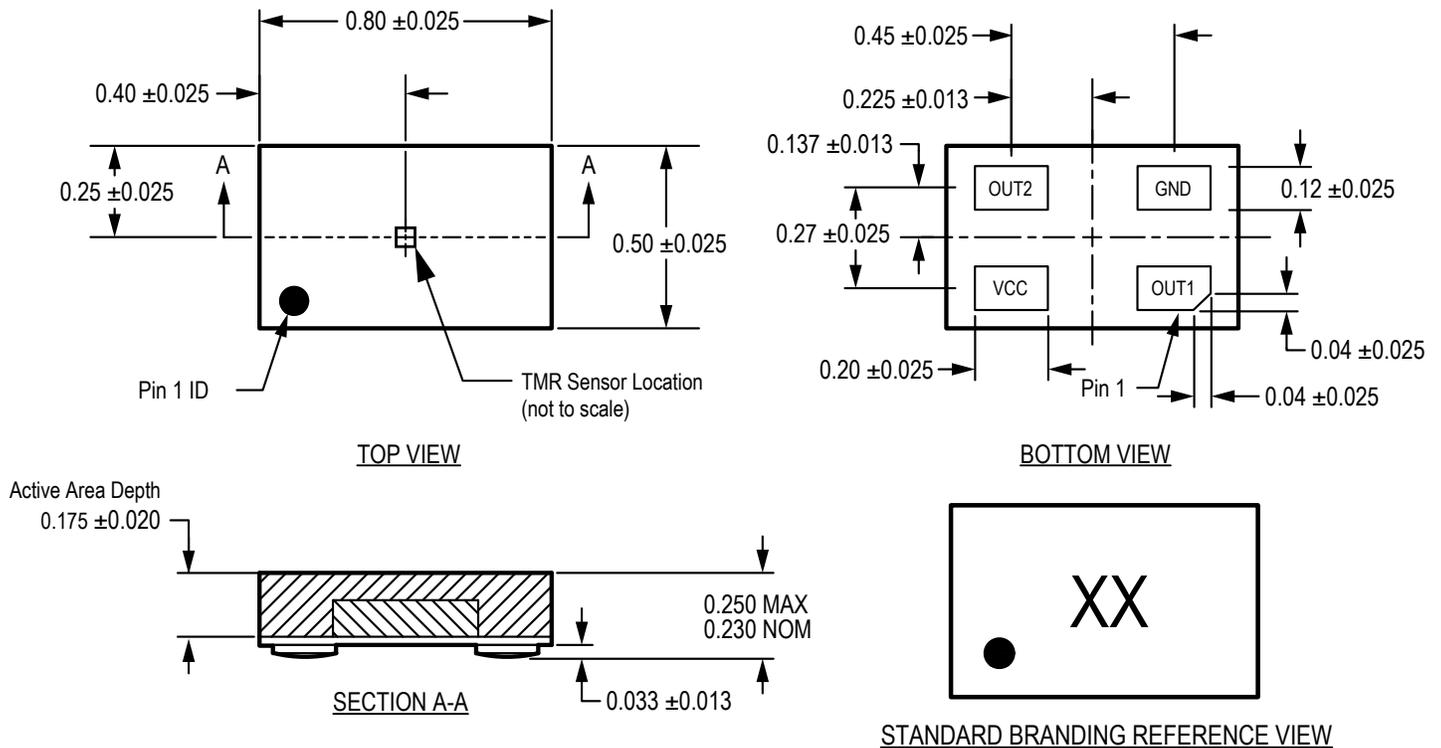


Figure 2: Package FB, 4-Pin Wafer-Level Fan-Out Package (WLFOP)

Revision History

Number	Date	Description
–	March 16, 2026	Initial release
1	March 20, 2026	Initial release to Allegro website (short-form only)

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