3D Magnetic Sensor with I²C and SPI Digital Output

The MV300 is a magnetic sensor that detects the direction and strength of the 3D magnetic field (B_X, B_Y, and B_Z). The signal from the Hall sensors is amplified and converted to a digitized signal, and the magnetic field range is ±150mT.

The MV300 operates in host-controlled mode, auto sampling cycle (ASC) mode, or full-speed mode.

The MV300 features digital communication for readout and can be configured through either the I²C interface or serial peripheral interface (SPI).

The MV300 is available in a TSOT23-6 package.

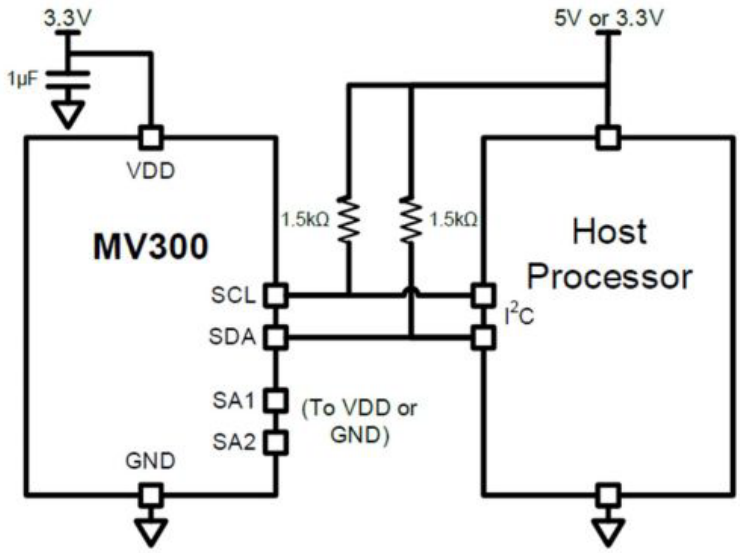


Figure 1: Typical Application (I²C Version)

Features & Benefits:

- 3D (X, Y, and Z) Magnetic Sensing
- ±150mT Magnetic Field Range
- 12-Bit Data Length
- 0.2mT RMS Noise (X, Y) and 0.1mT RMS Noise (Z) at 20kHz Refresh Rate
- On-Chip Temperature Sensor
- 40µs Conversion Time per Channel
- Data Updates upon User Request in Host-Controlled Mode

- Selectable Update Rate in Auto Sampling Cycle (ASC) Mode
- I^2C Interface or Serial Peripheral Interface (SPI) for Digital Readout and Chip Configuration
- 3.3V Supply, 2.5mA Current Consumption in Measuring State
- 30nA Current Consumption in Power-Down State
- -40°C to +125°C Operating Temperature Range
- Available in a TSOT23-6 Package