

I3C is a new standard from the MIPI Alliance that unifies and extends legacy interfaces of I2C and SPI and adds new powerful features to support modern mobile, automotive, and IOT applications. I3C products from Silvaco provides customers with a range of products that allow customers to take advantage of the higher performance and lower power features that come with I3C.

The I3C Autonomous Slave controller is intended for simple, data acquisition types of applications where a microprocessor is not needed to process the data. Instead, data is exchanged via a simple set of register interfaces to the application and the controller autonomously manages all of the communication to an upstream I3C Master.

APPLICATIONS

- Mechanical sensing (Gyroscopes, MEMS, etc.)
- Environmental sensing (Light, pressure, temperature, humidity, etc.)
- Biometrics (Fingerprinting, glucose, heart rate, breathalyzer, etc.)
- Communication (Near-field sensors, infrared remotes, etc.)

FEATURES

- Highly configurable core that allows customer to minimize unneeded logic
 - Compliant with the latest version of the MIPI I3C specification
 - Legacy I2C coexistence, including I2C messaging
 - Support for I2C pads with 50ns glitch detector
 - Dynamic addressing
 - Multi-drop capability
 - Standard data rate (SDR)
 - Error detection types (S0-S6, M0-M2)
- Advanced I3C features
 - Hot join
 - Status I2C address support (Slave and SDR only Slave)
 - In-band interrupts
 - Asynchronous time stamping (Mode 0)
 - High speed mode (HDR-DDR)
 - Additional CCC's (ENTAS1-2, ENEC/DISEC, SET/GET Max, GETMXDS)
- Low gate count (<2K gates)

BLOCK DIAGRAM

