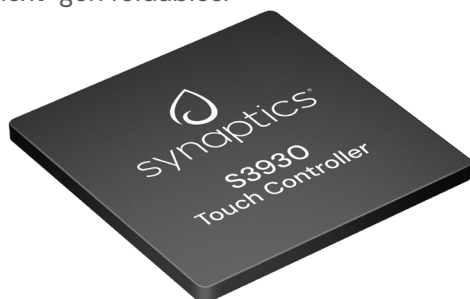




The Synaptics S3930 series is a next-generation touch controller designed specifically for foldable OLED and ultra-thin mobile displays. As form factors evolve and panel technologies advance, the S3930 meets the growing demand for high-performance, low-latency touch in challenging environments—where display noise, thin stack-ups, and dynamic bending are common. At the core of the S3930 are innovations that dramatically improve noise mitigation by isolating touch signals through advanced filtering. A key enabler is Synaptics’ patented multi-frequency-region parallel sensing (MFRPS), which reduces sensing bursts across large sensors using continuous-time acquisition and a digital analog front-end (dAFE). This architecture enables faster, more efficient multi-frequency decoding while lowering system cost. Combined with a compact 5.1 × 6.8 mm footprint, a powerful RISC-V™ + Hydra vector engine, and support for large OLED® panels, the S3930 enables ultra-responsive, reliable touch across premium smartphones, tablets, and next-gen foldables.



Benefits

- Delivers smooth, responsive touch across premium foldable and slate devices
- Simplifies integration with flexible scan and tuning architecture
- Improves reliability under noise, moisture, and charger conditions

Applications

- Foldable phones
- Tablets
- Automotive OLED



ULTRA-COMPACT FOOTPRINT



ENGINEERED FOR FULL FLEX OLED PANEL INTEROPERABILITY



REQUIRES AS FEW AS EIGHT EXTERNAL COMPONENTS



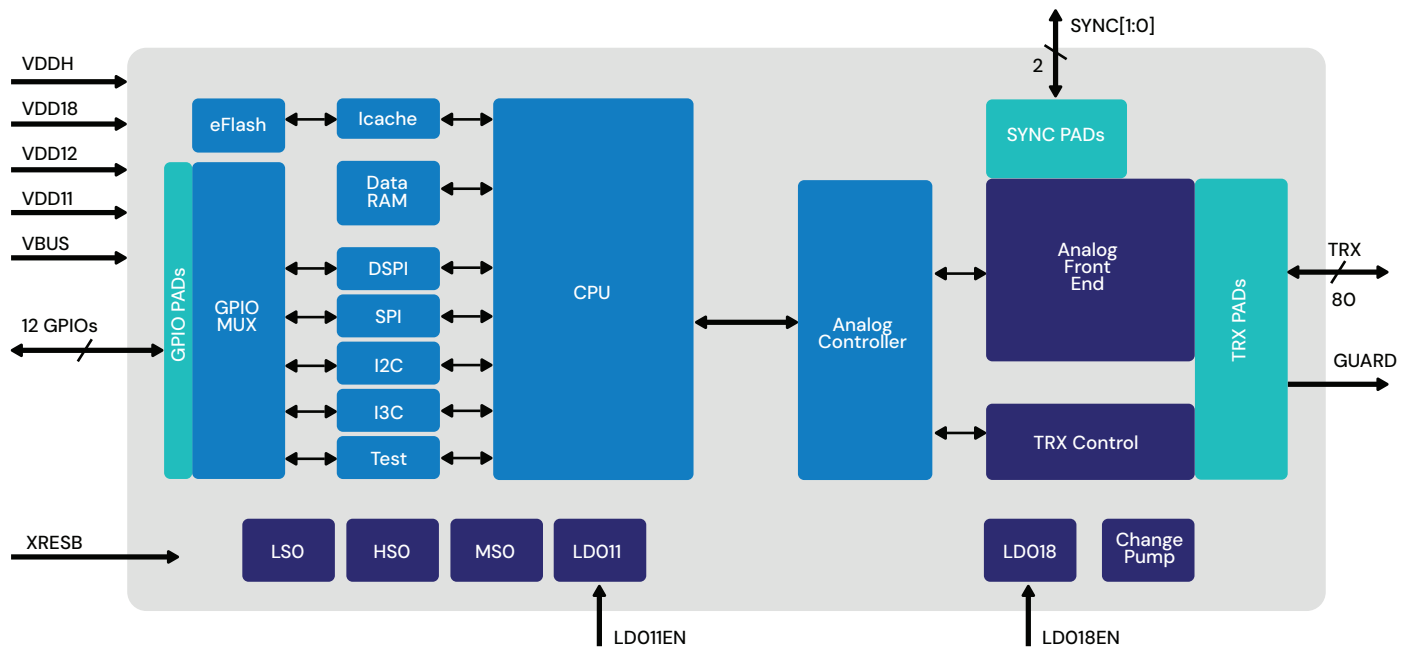
ADVANCED DISPLAY NOISE MITIGATION

Features

- Best-in-class touch performance: Supports up to 80 channels with advanced signal processing for smooth, accurate touch.
- Optimized for foldables: Designed for vertical and horizontal foldable OLEDs up to 9".
- Gen2 architecture: New scan scheme, RISC-V MCU, and dAFE boost performance and programmability.
- Robust noise immunity: Multi-frequency sensing and digital filtering tackle charger and display noise.
- Pen support: Compatible with USI™, HPP, and MPP™ protocols.
- Consistent performance with wet or gloved fingers.
- Fast response: Report rates up to 360Hz.

Synaptics S3930

Touch Controller



System Block Diagram



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