

## FS4300 Family Touch Fingerprint Sensor

### Product Brief

### High Performance Area Fingerprint Sensor Solutions for Smartphone, Tablet, and Notebook PC Applications



The Synaptics® Natural ID™ FS4300 family of area fingerprint sensors is designed to provide a secure and easy-to-use fingerprint authentication solution for Consumer Electronics devices. Available in a range of sizes and form factors, it is ideal for fingerprint sensing in the home button or front, back, or side of smartphones and tablets and convertibles, or in a notebook PC palmrest.

The FS4300 family enables a highly convenient user experience with its fast and simple and touch authentication usage. The wide range of form factor enables OEMs to integrate FS4300 into a wide variety of devices, including devices with challenging space constraints. It enables OEMs to deliver the most compelling and highly-differentiated mobile devices to the market, with excellent performance and costs.

### Complete Solutions with Enterprise-Grade Security

Synaptics provides all the required firmware and software components for simple integration into Android® or Microsoft® Windows® environments.

The FS4300 family provides enterprise-level security for protecting corporate data, financial transactions, as well as on-line accounts and locally-stored data. All templates, data transfers, and transactions are strongly encrypted and secure.

### High Performance and Excellent User Experience

Synaptics' system-level approach to fingerprint sensing optimizes the performance of both the sensor hardware and matching algorithms for the best user experience possible. High system accuracy minimizes false reject events, and low-latency ensures a highly responsive and seamless user experience.

The FS4300 family uses Synaptics' patented architecture where the sensor is separate from the IC, reducing cost by providing a sensor area significantly larger than the control IC, and enabling flexibility in the button shape and construction.

### Features and Benefits

#### High-Performance Area Touch Sensor

- Easy-to-use area touch fingerprint sensor.
- Low latency and high accuracy
- Advanced matcher and enrollment for industry-leading False Accept Rate (FAR) and False Reject Rate (FRR) performance.

#### High Security

- RSA-2048 public key cryptography for key exchange, authentication, and data validation with unique keys for every sensor.
- AES-256/SHA-256 encryption.
- SSLv3 for secure session establishment.
- Multiple one-time-password standards and technologies supported (OCRA, HOTP, TOPT).
- Physically Unclonable Function (PUF) generates unique 512 bit output; used to generate keys.
- Secure ownership change protocol.
- Secure, encrypted template storage.

#### Integration Options

The versatile FS4300 family can be used in virtually any device form factor, such as home screen buttons or power buttons for smartphones, tablets, or portable computers. Low-profile and small-footprint packaging supports integration into the tightest, most challenging spaces.

#### Advanced OS Support

Fully compliant with the leading operating systems such as Android® and Windows®. Synaptics' software architecture enables easy integration with industry-leading biometric security software applications.

#### Transaction Ready

Natural ID™ sensors are compliant with major online- and mobile-payment standards, such as Fast Identity Online (FIDO), PayPal, AliPay, and UnionPay.

#### Proven Technology

The Natural ID™ product portfolio is backed by Synaptics' deep system integration expertise, User Experience design capabilities, and the reliability and scale to successfully service the fingerprint authentication needs of top-tier OEMs and high-volume programs. Synaptics' fingerprint sensors are used in hundreds of million devices.

WEBSITE: [WWW.SYNAPTICS.COM](http://WWW.SYNAPTICS.COM)  
GENERAL INFORMATION: [INFO@SYNAPTICS.COM](mailto:INFO@SYNAPTICS.COM)  
SALES: [SALES@SYNAPTICS.COM](mailto:SALES@SYNAPTICS.COM)  
PRESS: [PRESS@SYNAPTICS.COM](mailto:PRESS@SYNAPTICS.COM)

## FS4300 Family Touch Fingerprint Sensor

### Product Brief

### Key Hardware Specifications

Item	Specification
Sensor Type	Area Touch
Sensor Image Area Size	Range of sizes available: Contact Synaptics Sales for full information
Interface	SPI: 4.8-18 MHz USB 1.1 – 3.1: Full Speed
Power Supplies	3.3V analog, 1.8V digital (SPI), 3.3V digital (USB)

### Key Software Specifications

Item	Specification
OS Support	Microsoft® Windows®, Android®
Matcher Type	Proprietary
Match Location	Host, TrustZone
Security and Encryption	RSA-2048 public key cryptography for key exchange, authentication, and data validation with unique keys for every sensor  Physically Unclonable Function (PUF) generates unique 512 bit output; used to generate keys  AES-256/SHA-256 encryption

### Reference Documents

505-000467-01 Natural ID FS4300 Fingerprint Sensor Datasheet

### Trademarks

Synaptics, the Synaptics logo, LiveFlex, Natural ID, SecureMatch, SecureSense, and Sentry Point, are trademarks or registered trademarks of Synaptics Incorporated or its affiliates in the United States and/or other countries.