

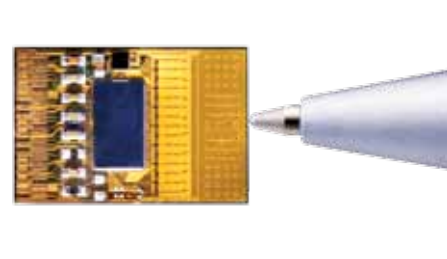
▶ PRODUCT OVERVIEW

SMARTFINGER® FILM FINGERPRINT SWIPE SENSOR

The patented SmartFinger® Film sensor is an ultra thin, flexible fingerprint sensor based on state of the art polymer technology. SmartFinger® Films combination of energy efficient electronic circuitry and small footprint software algorithms enables easy integration into a variety of applications such as One Time Password devices, Smartcards, ID cards, mobile telephones, access control devices and biometric tokens. The technology is based on multiple patent families ranging from sensing principles to miniaturized hardware implementations and image processing algorithms. With the combination of the thin, flexible sensor and optimized electronics and software, IDEX is able to offer a complete embedded biometric authentication solution tailored specifically for card and mobile applications. Personal fingerprint information never leaves the secure environment of a SmartFinger® equipped device. The device is autonomous and self authenticating eliminating the need for external inputs to the authentication process.

SMARTFINGER® FILM TECHNOLOGY

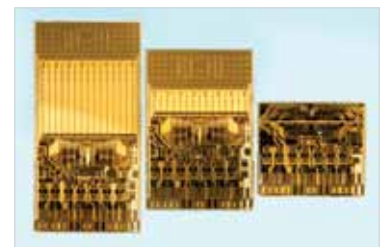
Extremely compact, highly robust and utilizing very low power consumption, the IDEX SmartFinger® film swipe sensor technology can be customized for easy integration into any biometric based product due to its thin and highly flexible geometrical design. The SmartFinger® Film sensor is based on IDEX's industry proven capacitive fingerprint sensing technology and incorporates real-time sensor optimization algorithms for all skin types under the widest range of environmental conditions. The images are reconstructed in real-time compensating for variations in swiping speed and direction.



▶ KEY FEATURES

THE SMARTFINGER® FILM SENSOR FAMILY

- Industries thinnest and most flexible – 0.05 mm thick
- Unsurpassed image quality and biometric performance (false rejection, false acceptance)
- Compliant with ISO Card form factor
- A variety of customizable geometries available
- ZIF and ACF connections
- On-board micro controller capability



SMARTFINGER® EMBEDDED BIOMETRIC SYSTEM

- Minimal hardware resources required
- Small software footprint
- On Device enrollment, template storage and verification
- Supports industry standard Cortex M3 microcontrollers
- Reference designs and development kits available



SMARTFINGER® ASIC

- Unsurpassed swipe speed and skew correction
- Low noise amplification
- Finger-on detection
- Low power consumption
- Flip-chip interface



▶ SMARTFINGER FILM PRODUCT SPECIFICATION OVERVIEW

SMARTFINGER® FILM SPECIFICATIONS

Materials compliance	RoHS Compliant / Lead Free
Single-Line Sensor	Supports up to 136 imaging channels
Max Swipe Speed	Up to 94 cm/sec
Skew Tolerance	+/- 40 Degrees
System Clock	12-32 MHz
Communication Interfaces	SPI up to 48 Mbit/s
I/O Supply Voltage	1.8-3.3 V
Operating Voltage	Digital Supply: 1.8-3.3 V / Analog Supply: 3.0-3.3 V
Current Consumption (Typical)	Active Mode: 8 mA / Standby with Wakeup: 143 µA

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40C° to +85C°
Storage Temperature	-40C° to +150C°
Operating Humidity	5-95% RH
ESD Tolerance (IEC 61000-4-2 Level 4)	Contact Discharge ±8 KV / Air Discharge ±15 KV

SMARTFINGER® SOFTWARE AND DEVELOPMENT KITS

Algorithms (Embedded & PC)	Image Reconstruction / Extraction / Matching
Demonstration kit	USB to PC; application and API for Windows
Embedded Development kits	Various ARM7 / Cortex M3 based kits available

▶ ABOUT IDEX ASA

IDEX® ASA is a Norwegian public company specializing in fingerprint imaging and recognition technology. IDEX® vision is to ensure individuals a safe, secure, and userfriendly use of personal ID. IDEX® has developed the award-winning SmartFinger® Film technology platform including the patented fingerprint imaging principle, sensing scheme and chip design. Combined with core software solutions for imaging and authentication SmartFinger® Film enables on-device enrollment, template storage and verification within the very same module. The SmartFinger® Film sensor is thin and bendable and can be customized for a variety of applications

such as One Time Password devices, Smartcards, ID cards, access control devices and biometric tokens. The SmartFinger technology is available to customers under an intellectual property (IP) licensing scheme or as SmartFinger® Film sensor assemblies for integration into customers' products. IDEX® ASA (ticker IDEX®) is listed at the Oslo Axess market place on the Oslo Børs (Oslo stock exchange).

For more information, please visit www.idex.no or contact IDEX® at: mailbox@idex.no

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