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UPEK Embedded Fingerprint Sensor Solutions





Sensors - Fingerprint image capture		Applications
Large Touch Sensor TCS1		Uses: Multi-user embedded & PC devices with 1-touch usability. Examples: Enterprise access control, PC peripherals, POS/Kiosk terminals, handheld ID terminals, physical access
Medium Touch Sensor TCS2		Uses: Price sensitive "touch" embedded & PC devices Examples: home door locks, PC peripherals, home safes.
Swipe Sensor TCS4		Uses: Replace passwords and PIN codes with a finger swipe. Examples: PC peripherals, consumer door locks, USB tokens, mobile devices.
Chipsets - Discrete components that require assembly and testing		
Swipe Sensor + Digital ID Hardware Engine TCS4 + TCD50		Uses: Replace passwords and PIN codes with a finger swipe. Examples: PC peripherals, USB tokens, consumer door locks, garage doors, home alarms, safes.
Modules - Components pre-assembled onto circuit board and tested)		
FIPS 201 Certified Sensor Module TCEFB1		Uses: Multi-user embedded & PC devices with 1-touch usability. Examples: Enterprise access control, PC peripherals, POS/Kiosk terminals, handheld ID terminals, physical access
Swipe Sensor Module TCEEA4AF		Uses: Replace passwords and PIN codes with a finger swipe. Examples: PC peripherals, USB tokens, consumer door locks, garage doors, home alarms, safes.

Features		Development Kits
<p>Large 12.8mm x 18.0mm image area 508 DPI 8-bit grayscale FIPS 201 Certified</p>	<p>TCKDU07: TouchChip USB Development Kit w/ PerfectPrint-PC SDK. Embedded PerfectPrint SDK</p>	
<p>Medium 10.8mm x 14.4mm image area Lower cost than the TCS1 508 DPI 8-bit grayscale</p>	<p>TCKDU07: TouchChip USB Development Kit w/ PerfectPrint-PC SDK Embedded PerfectPrint SW SDK</p>	
<p>Compact sensor with 9.6mm wide pixel array 192 pixel sensing array 508 DPI 8-bit grayscale Up to 40cm/sec swipe rate</p>	<p>Contact UPEK</p>	
<p>Complete biometric subsystem: fingerprint enrollment & verification functionality Compact 9.6mm swipe image, plus TCD50 co-processor On device NVM allows to store database of 15 fingerprints. Possibility to store additional fingerprint templates on host Guaranteed biometric performance: 40cm/sec swiping speed for convenient usage <0.75sec response time from finger lift off 15 fingerprints) USB, SPI and UART interfaces</p>	<p>TCKDE07: TouchStrip Development Kit for Embedded applications</p>	
<p>FIPS 201 Certified TCS1 USB module 12.8mm x 18.0mm image area Compact design Drivers available for Windows and WinCE systems (x86, ARM & SH4 hardware platforms)</p>	<p>TCKEU07 TCEFB1 Module Evaluation kit TCKDU07: TouchChip USB Development Kit</p>	
<p>TCS4C sensor and TCD50 Digital ID hardware engine for best biometric performance 12-pin flex connector for easy integration to the target system USB, UART, and SPI Holds up to 15 templates Match 1:1 <0.5 sec, 1:60 <3 sec</p>	<p>TCKDE07: TouchStrip Development Kit for Embedded applications SDK inclusive of TCEEA4AF modules starts shipping December 2008</p>	



UPEK embedded fingerprint sensor solutions

UPEK embedded fingerprint sensor solutions offer reliable biometric authentication in embedded package that's low cost and easy to integrate. UPEK fingerprint sensors are deployed globally in applications ranging from national ID card verification to corporate network logon to protection of personal homes.

Easy-to-use

Fingerprint sensors make the user experience more convenient and need to work for everyone in all conditions – old and young, big and small, dry and wet, etc. UPEK embedded fingerprint sensors offers the easiest user experience based on proprietary HD3D Sensing technology:

Live Layer Sensing – senses both the surface and the subsurface, or “live layer”, of the skin.

Capacitive Sensing – measures feedback capacitance determined by the presence of 3-D ridges and valleys of a fingerprint.

Active Pixel (vs. Passive Pixel) – Each pixel has its own amplifier for a stronger signal to deliver a crisper image. Large Image Area - 144 pixel-wide sensor scans a larger finger area than competing swipe sensors.

Dual Plate (vs. Single Plate) – Each pixel contains a transmitter and receiver for greater sensitivity and more detailed images.

Tri-Mode Sensing (vs. Single mode sensing) – HD3D Sensing utilizes three modes of sensing - DC, AC, and differential AC - to sense.

Robust

Fingerprint sensors need to withstand human interaction and the elements. UPEK embedded fingerprint sensors offer the most robust fingerprint sensor on the market:

Scratch Resistant Shield – High sensitivity pixels enable the use of a hard protective coating for long, trouble-free operation. Tested to withstand over 10 million swipes.

ESD Resistance – Withstands IEC 61000-4-2-Level 4 +/-15kV

Element Protection – Operates in temperatures ranging from -30°C to +70°C, and from 5% to 93% RH at 30°C.

Secure

Fingerprint sensors take user authentication from the weakest to the strongest link in a security architecture. UPEK embedded fingerprint sensors reinforce UPEK's position as the security leader:

Minutiae algorithm – UPEK algorithms extract unique features called “minutiae” and discard the fingerprint image to preserve privacy. It is not possible to recreate a fingerprint image from the minutia data.

Anti-spoofing - 3rd generation anti-spoofing technology, including sensing for live properties of a finger, counters attempts to fool the sensor with a fake fingerprint.

Government certified – UPEK's TCS1 is the only silicon fingerprint sensor FIPS 201 certified for identification of U.S. government employees and contractors.

Easy to Integrate

SDKs, documentation, support, and design services ensure fast time-to-market.

Compact, low cost, and less power consumption relative to optical sensors.

Choice

Touch and swipe sensors – TouchChip touch sensors for one-touch ease of use; TouchStrip swipe sensors low cost, frequently-used applications.

Sensors, chipsets, and modules – Sensors for image capture; Chipsets for complete biometric solution; Modules for turnkey biometric solutions.

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