



APPLICATIONS

Embedded systems, such as:

- Garage door openers
- USB flash drives
- Car alarms and more

SILICON SWIPE FINGERPRINT MODULE

The TouchChip® TCESC4K swipe module is compact, cost-effective and easy to integrate. The onboard processor is used for capture and match, delivering fast and accurate results. It can store up to approximately 100 user templates and supports USB, SPI or UART interfaces. Power consumption is less than 80ma during capture and match, and a low power auto-wake feature detects when a finger is on the module, making the TCESC4K module ideal for battery applications.

For easy integration, the TCESC4K module is fully assembled and

tested—just connect and interface with simple commands. The TCESC4K module also offers a convenient user experience based on proprietary technology that senses 3-D ridges and valleys of a fingerprint and captures the highest image quality for a swipe sensor.

The TCESC4K swipe module is designed for use with the TouchChip Module Development Kit. Whether you are an OEM or system integrator, biometric identity verification solutions from HID Global provide a natural extension to your applications.

FEATURES

- USB, UART and SPI
- Low power consumption
- Compact size



 Windows® 32-bit and 64-bit, Linux® x86, embedded systems (with and without OS)



SPECIFICATIONS

Product Name	TouchChip® TCESC4K Module
Part Numbers	 TouchChip Embedded Module (TCS4K sensor, TCD58E processor, USB/SPI/UART): TCESC4KSOCO TCESC4K Starter Kit (80 TCESC4K modules) MOQ for bulk orders: 400: TCKTO6
Fingerprint Sensor	TSC4K (192 pixels), 508 or 381 dpi, 9.6 x 25 mm image size, SteelCoat protective layer
Processor	TCD58E, 32-bit RISC, 144 MIPS
Fingerprint Template Database Size	Up to ~100 templates (typical)
ESD	IEC 61000-4-2 level 4 +/- 15KV air, +/- 8KV contact
Power (typical)	 3.0V to 3.6V, 78 mA (capture, match, navigate) Standby (USB): 1350uA Standby (UART/SPI): 1150uA
Finger Detection Option	Wakes from low power state with user's touch
Dimensions	20.0 x 19.7 x 3.6 mm
Environmental	 Operating temp: -30 to +70 C Storage temp: -30 to +125 C Humidity: 5% - 93% no condensation ROHS, low halogen
Connector	ZIF FFC, 12 pos x 0.5mm x 0.3mm (cable not provided)
BIOMETRIC / CREDENTIAL CAPTURE	
Swipe Speed	~ 40cm/sec
Match Time	 1 finger: < 0.4 sec (from finger liftoff) 15 fingers: < 0.75 sec 100 fingers: ~2.5 sec
SENSOR DURABILITY	
Swipe Resistance	> 2 million swipes
Pen Scratch Resistance	6H hardness with 20N force
Pen Drop Resistance	60 cm
Call Drop Resistance	60 cm
Waterproof	24h water soak
Chemical Resistance	24h contamination with over 20 chemicals
SOFTWARE AND TOOLS	
PerfectTrust API (PTAPI) Embedded	Image capture and transfer, enrollment, match
Platform Support	 UART and SPI interface libraries: reference implementation for 32-bit MCUs in C source code USB: Windows® to 8.1, Linux® x86/x64 and Android™ 3.1 (API Level 12) or newer



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