



TouchChip TCS1 fingerprint sensors and modules use the most proven and widely deployed silicon touch fingerprint technology on the market, including the only FBI certified silicon fingerprint sensor technology.

Compact, Cost Effective, Compliant

Sensors:

TCS1CT (FIPS-201)
TCS1ST (SteelCoat)

Modules:

TCECT1 (FIPS-201)
TCETD1 (SteelCoat)



Advantages

- **Proven** – TouchChip is the most widely deployed silicon fingerprint touch sensor technology on the market today, delivering world-class biometric performance.
- **Easy to Integrate** – Integrated bezel and thin package make TouchChip products easy to integrate into many devices: USB peripherals, mobile ID, door locks.
- **Compact** – Fits into devices. ~1/10th the size of bulky optical devices.
- **Low Power** – Reduces power consumption for longer battery life.
- **On Board Matching** – TouchChip modules w/ on-board TCD58 processor provide image capture, template extraction and matching for stand-alone or network use.
- **Robust** – TouchChip SteelCoat devices: most robust silicon fingerprint sensors.
- **Interoperable** – Compatible with top MINEX and AFIS algorithms. ANSI-378 and ISO 19794-2 compatible, WSQ & JPEG2000 compression, NFIQ support.

Features

- **FIPS-201 Certified** – TouchChip TCS1 sensors & modules are the only silicon fingerprint sensor certified by the FBI (Enhanced Image Mode – EIM).
- **SteelCoat** – TouchChip sensors and modules are available with the proven SteelCoat technology for enhanced robustness and durability.
- **Multi-function Package** – TouchChip "T" package with integrated silver bezel offers one device size with six (6) 'Sensor' and 'Module' configurations, enabling design flexibility. (Different bezel colors available with sufficient production volume)
- **Ingress Protection** – Bezel designed for water/dust protection to IP65 (gasket required).
- **Flexible Interfaces** – TouchChip Sensors provide an 8-bit parallel interface to embedded processors. TouchChip Modules supports USB, SPI and UART.

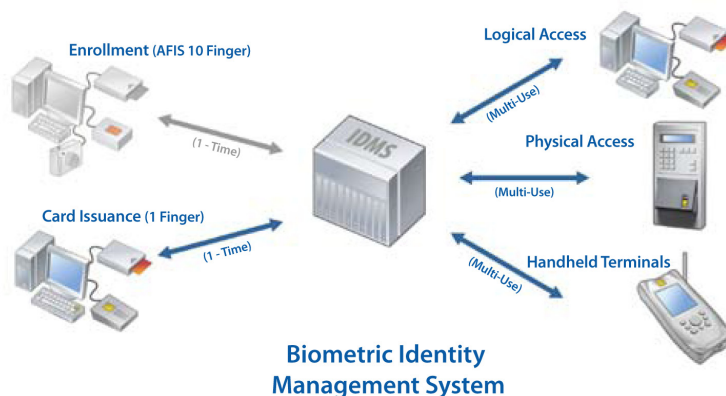
Mobile ID



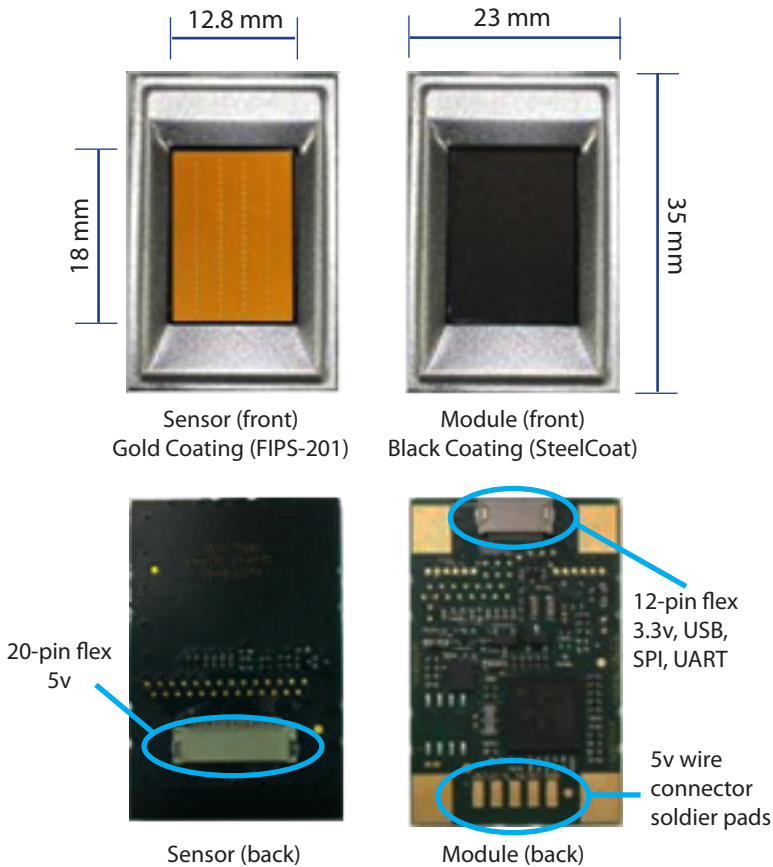
Logical Access



Physical Access



TouchChip "T" Package Dimensions



Product Ordering Information

Sensors	Part Number
TCS1 FIPS-201 (gold coating)	TCS1CT6A2
TCS1 SteelCoat (black coating)	TCS1ST6A2

Modules	Part Number*
TCS1 FIPS-201 3.3v USB/SPI/UART	TCETC1FF02
TCS1 FIPS-201 5v USB only	TCETC1FG02
TCS1 SteelCoat 3.3v USB/SPI/UART	TCETD1FF02
TCS1 SteelCoat 5v USB only	TCETD1FG02

* MINEX-compliant modules with algorithm license available upon request. Contact Sales for more information.

Development Tools

There are several TouchChip hardware and software development kits and a Developer program with different options for technical support. Contact your local sales representative or send an email to: touchchipsales@digitalpersona.com.

TouchChip Sensor Specifications

Interface	<ul style="list-style-type: none"> 8 bit parallel interface 20-pin flex connector
Power (typical)	<ul style="list-style-type: none"> 4.5 - 5.5v supply (FIPS-201 mode: 4.5 - 4.6v) 20 ma during capture

TouchChip Module Specifications

Interface Options	<ul style="list-style-type: none"> 12-pin flex: USB, SPI, UART @ 3.3v 5-solder pads for USB only @ 5v
Power (typical)	<ul style="list-style-type: none"> 3.0v to 3.6v 80 ma (capture, match) Standby (USB): 1350 uA Standby (UART/SPI): 1150 uA
Match Time (typical) (on device templates)	<ul style="list-style-type: none"> 1 finger: < 0.4 sec (from finger liftoff) 15 fingers: < 0.75 sec 100 fingers: < 2 sec

Common Specifications

Fingerprint Image	<ul style="list-style-type: none"> 12.8 x 18.0 mm (256 x 360 pixels) 508 DPI, 8-bit grayscale
Sensor Coating	<ul style="list-style-type: none"> FIPS-201 (gold coating) SteelCoat (black coating)
Package Size	<ul style="list-style-type: none"> 23 mm x 35 mm x 4.1 mm
ESD	<ul style="list-style-type: none"> IEC 61000 - 4.2 level 4 +/- 15KV air, +/- 8KV contact
Ingress Protection	<ul style="list-style-type: none"> IP 65 (water/dust protection)
Environmental	<ul style="list-style-type: none"> Operating temp: -30 to +70C Storage temp: -30 to +125C Humidity: 5% - 93%, non-condensing ROHS, low halogen
Software	<ul style="list-style-type: none"> OS: Windows XP/Vista/W7, WinCE, Linux, MacOS, Android, none SDK: BSAPI, PTAPI, PerfectPrint for image capture, enroll/verify, comms (varies w/ application & OS)

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