# CROSSMATCH™

# TouchChip® TCS1 and TCET
Silicon Fingerprint Sensors and Modules



## APPLICATIONS

ID Verification for:
• Civil ID/Voting/Entitlement
• Micro Finance and Healthcare
• Mobile ID terminals

## PRODUCT DESCRIPTION

The TouchChip TCS1 sensors are designed for applications that need image-out functionality.  The TouchChip TCET modules provide a self-contained biometric matching system.  Both offer silicon touch technology in small form factors with low power.  The Enhanced Image Mode (EIM) optimizes image quality over a broad range of skin types and capture conditions.  It eliminates latent images during capture.  The TouchChip sensors and modules are compatible with top MINEX and AFIS algorithms.  They offer ingress protection from dust and moisture penetration to IP65*.  The TCET modules offer on-board image capture, template extraction and minutia matching with ANSI 378 and ISO 19794 template standards. They also support WSQ and JPEG2000 compression with the appropriate Software Development Kit.

TouchChip Sensors:

• TCS1CT is the only FIPS 201 certified silicon fingerprint sensor.

• TCS1ST includes a SteelCoat for enhanced durability

TouchChip Modules:

• TCETC1 uses the TCS1CT sensor to provide FIPS 201 certification

• TCETD1 uses the TCS1ST for enhanced durability

The TouchChip TCS1 sensors and TCET modules are designed for use with several Software Development Kits.  They also include broad software support from leading algorithm providers, ISV's and system integrators.  Whether you are an OEM or system integrator, Crossmatch's biometric identity verification solutions provide a natural extension to your applications.

* Requires customer to add external gasket.

## ABOUT CROSSMATCH

Crossmatch helps organizations solve their identity management challenges through biometrics.  We empower governments, law enforcement agencies, banks, retailers and other enterprises to mitigate risk, drive productivity and improve service levels.  Our solutions are built on consultative expertise, refined best practices and the application of advanced biometrics technologies.  Crossmatch understands the forces of change in the markets we serve and we develop solutions that anticipate customer requirements.  Our network of consultative and technical service experts collaborate with customers in more than 80 countries worldwide.

Learn more at www.crossmatch.com

# TouchChip® TCS1 and TCET

## Silicon Fingerprint Sensors and Modules

CROSSMATCH™

## TOUCHCHIP SENSOR SPECIFICATIONS

| | |
|---|---|
| Interface | • 8 bit parallel interface<br>• 20-pin flex connector |
| Power (typical) | • 4.5 - 5.5v supply (FIPS 201 mode: 4.5 - 4.6v)<br>• 20 mA during capture |

## TOUCHCHIP MODULE SPECIFICATIONS

| | |
|---|---|
| Interface Options | • 12-pin flex: USB, SPI, UART @ 3.3v<br>• 5-soldier pads for USB only @ 5v |
| Power (typical) | • 3.0v to 3.6v<br>• 80 ma (capture, match)<br>• Standby (USB): 1350 uA<br>• Standby (UART/SPI): 1150 uA |

## COMMON SPECIFICATIONS

| | |
|---|---|
| Fingerprint Image | • 12.8 x 18.0 mm (256 x 360 pixels)<br>• 508 dpi, 8-bit grayscale |
| Sensor Coating | • FIPS 201 (gold coating)<br>• SteelCoat (black coating) |
| Package Size | 23 mm x 35 mm x 4.1 mm |
| ESD | IEC 61000 - 4.2 level 4, +/- 15KV air, +/- 8IKV contact |
| Ingress Protection | IP 65 (water/dust protection) |
| Environmental | • Operating temp: -30 to +70 C<br>• Storage temp: -30 to + 125 C<br>• Humidity: 5% - 93% non-condensing<br>• ROHS, low halogen |

## COMMON SPECIFICATIONS

| | |
|---|---|
| Sensors | |
| TCS1 FIPS 201 (gold coating) | TCS1CT6A2 |
| TCS1 SteelCoat (black coating) | TCS1ST6A2 |
| Modules | |
| 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 |
| *Data subject to change without notice* | |

## FEATURES

• FIPS 201 PIV certified

• SteelCoat

• Low power consumption

• Compact size

• High durability silicon surface

• IP65-rated top surface sealed against dust and liquid*

• High quality fingerprint image

• OS: Windows® 7, Vista, XP, CE, Linux®, MacOS® and Android

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