**PRODUCT DESCRIPTION**

The TCS4H is an enterprise-friendly solution for device makers looking to add fingerprint authentication via a SPI interface. The TCS4H delivers a wide imaging area, and standards-compatible minutia matching in a power efficient implementation. The TCS4H’s wide form factor supports applications requiring excellent usability and accuracy in a cost-effective solution. The minutia matching algorithm includes support for ISO 19794-2 & ANSI/INCITS 378 compatible minutia templates. The solution also supports additional security features including image data signing, encryption and anti-spoofing.

**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

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**FEATURES**

- Standard SPI slave interface with 8KByte FIFO buffer
- Highly durable black SteelCoat coating
- Highly integrated design enables low bill of materials cost
- Internal current limiter and voltage regulator
- Multiple battery-friendly operating modes
- BGA package

**SUPERIOR TECHNOLOGY**

- Advanced technology provides the most accurate fingerprint image
- Minutia matching supports different swipe angles
- Anti-spoofing protection
- User navigation features

**EASY TO USE**

- Able to read a wide range of fingerprints
- Fast swipe speeds up to 38 cm/s
- Rapid response from sleep/suspend states
## TouchChip® TCS4H Sensor

### HIGH PERFORMANCE SMART SENSOR FUNCTIONS
- Standard SPI slave interface
- Proven minutia matcher
- Menu, list and document navigation

### HIGH DEFINITION 192 X 8 PIXEL ARRAY
- 192 pixel (9.6 mm) sensing array width
- 508 pixels per inch horizontal resolution
- 381 pixels per inch vertical resolution

### ENHANCED USABILITY
- Supports fast swiping – up to 38 cm/sec.
- Rapid wake-up time for reliable authentication - imaging within 20 ms of wake-up

### SECURITY FEATURES
- Image data encryption
- Image data signing

### RUGGED SENSOR SURFACE COATING
- Scratch & impact resistant
- Withstands >10 million rubs
- Advanced 6-H hardness durability coating

### HIGH DEFINITION 192 X 8 PIXEL ARRAY
- Standard SPI slave interface
- Proven minutia matcher
- Menu, list and document navigation

### SUPERIOR TECHNOLOGY OFFERING
- Uses combination of three sub-surface imaging technologies
- Standards-compatible minutia matching technology
- Advanced anti-spoofing technology
- Responsive cursor and menu navigation

### RUGGED SENSOR SURFACE COATING
- Scratch & impact resistant
- Withstands >10 million rubs
- Advanced 6-H hardness durability coating

### ESD RESISTANCE
- Up to ± 30 kV air discharge
- Exceeds IEC 61000-4-2 Level 4

### MULTIPLE BATTERY-FRIENDLY OPERATING MODES @ 3.3V
- Imaging @ up to 38 cm/s 11 mA typical
- Navigation 11 mA typical
- Sleep ~80 µA (finger detect active)

### OPERATING VOLTAGE
- 2.4V to 3.6V single supply voltage

### ENVIRONMENTAL
- Operating temperature: -30°C to +70°C
- Storage temperature: -40°C to +125°C
- Humidity (operate and storage): 5% to 93% RH without condensation

### ADVANCED SECURITY FEATURES
- Image data encryption/signing
- Sensor to host authentication
- Embedded unique sensor ID number

### LOW POWER
- Low power consumption for imaging and sleep (finger detect) modes.

### DURABILITY
- Surface coating is highly resilient, withstanding more than 10 million rubs

### ROBUST SOFTWARE APPLICATION SUPPORT
- Standard SPI slave mode enables flexible software support options in many usage environments.