



## FEATURES

- USB, UART and SPI
- Low power consumption
- Compact size
- High durability silicon surface
- Windows® 32-bit and 64-bit, Linux® x86, embedded systems (with and without OS)



## SPECIFICATIONS

<b>Product Name</b>	<b>TouchChip® TCESC4K Module</b>
<b>Part Numbers</b>	<ul style="list-style-type: none"> <li>• TouchChip Embedded Module (TCS4K sensor, TCD58E processor, USB/SPI/UART): <b>TCESC4KSO</b></li> <li>• TCESC4K Starter Kit (80 TCESC4K modules) MOQ for bulk orders: 400: <b>TCKTO6</b></li> </ul>
<b>Fingerprint Sensor</b>	TSC4K (192 pixels), 508 or 381 dpi, 9.6 x 25 mm image size, SteelCoat protective layer
<b>Processor</b>	TCD58E, 32-bit RISC, 144 MIPS
<b>Fingerprint Template Database Size</b>	Up to ~100 templates (typical)
<b>ESD</b>	IEC 61000-4-2 level 4 +/- 15KV air, +/- 8KV contact
<b>Power (typical)</b>	<ul style="list-style-type: none"> <li>• 3.0V to 3.6V, 78 mA (capture, match, navigate)</li> <li>• Standby (USB): 1350uA</li> <li>• Standby (UART/SPI): 1150uA</li> </ul>
<b>Finger Detection Option</b>	Wakes from low power state with user's touch
<b>Dimensions</b>	20.0 x 19.7 x 3.6 mm
<b>Environmental</b>	<ul style="list-style-type: none"> <li>• Operating temp: -30 to +70 C</li> <li>• Storage temp: -30 to +125 C</li> <li>• Humidity: 5% - 93% no condensation</li> <li>• ROHS, low halogen</li> </ul>
<b>Connector</b>	ZIF FFC, 12 pos x 0.5mm x 0.3mm (cable not provided)
<b>BIOMETRIC / CREDENTIAL CAPTURE</b>	
<b>Swipe Speed</b>	~ 40cm/sec
<b>Match Time</b>	<ul style="list-style-type: none"> <li>• 1 finger: &lt; 0.4 sec (from finger liftoff)</li> <li>• 15 fingers: &lt; 0.75 sec</li> <li>• 100 fingers: ~2.5 sec</li> </ul>
<b>SENSOR DURABILITY</b>	
<b>Swipe Resistance</b>	> 2 million swipes
<b>Pen Scratch Resistance</b>	6H hardness with 20N force
<b>Pen Drop Resistance</b>	60 cm
<b>Call Drop Resistance</b>	60 cm
<b>Waterproof</b>	24h water soak
<b>Chemical Resistance</b>	24h contamination with over 20 chemicals
<b>SOFTWARE AND TOOLS</b>	
<b>PerfectTrust API (PTAPI) Embedded</b>	Image capture and transfer, enrollment, match
<b>Platform Support</b>	<ul style="list-style-type: none"> <li>• UART and SPI interface libraries: reference implementation for 32-bit MCUs in C source code</li> <li>• USB: Windows® to 8.1, Linux® x86/x64 and Android™ 3.1 (API Level 12) or newer</li> </ul>

Data subject to change without notice.



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