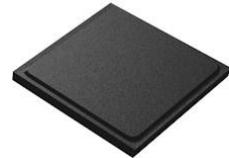# FPC1020 Touch Fingerprint Sensor

Product Sheet

- Complete fingerprint sensor module.
- Flat top surface, attractive appearance
- Available in different colors and gloss
- Superior imaging quality with 256 true grey scale values in every pixel
- Thin, compact and easy to integrate including navigation function
- Robust protective coating capable of more than 10 million finger placements
- Full ESD protection to more than ±30kV
- Ultra-low power consumption
- 1.8 Volt operation
- High speed SPI interface
- Pixel matrix 192x192 pixels @508 dpi
- Intelligent programmable wake up functionality
- Bezel recommended

FPC1020 available in 2 product configurations

FPC1020AP

- LGA component that only requires five passive components.
- Possible for module companies to design custom module with custom bezel and flex
- FPC1020AP available as tape 'n reel or tray
- Available in different colors

FPC1020AM

- Complete Module from FPC with LGA component plus flex film and bezel
- No extra components needed
- Available in different colors and shapes

Features

Computer peripherals

Time & attendance

Security applications

Wireless devices

General description

With extensive experiences from fifteen years of touch fingerprint sensor deployments and patented capacitive sensor technology, FPC1020 is primed for FIDO and Global Platform compliance. This biometric product consists of touch fingerprint sensor FPC1020 and fingerprint recognition algorithm optimized for integration into consumer electronics such as mobile phones and tablets.

Compact size and ultra-low power consumption makes it very attractive to use in battery-powered units. Fingerprint image data is captured in three dimensions (3D) delivering superior image quality at

508 dpi resolution. The fingerprint recognition algorithm is top ranked in independent tests and together with the touch fingerprint sensor FPC1020, it performs fast fingerprint matching with highest security level and optimal user convenience.

The FPC1020 comes with different software configurations, one dedicated for Android products targeting mobile phones and tablets including all necessary software. It also comes with a version for Windows Biometrics Framework (WBF) for laptop consumer products. FPC1020 is also available for other embedded environments.

Recommended host system spec for Android integration:
- Android version: 4.3 or 4.4, support for future Android versions will be added continuously
- CPU (minimum): CortexA7 or equivalent @ 1.3GHz with floating-point extensions enabled
- CPU (recommended): Cortex A15 or equivalent @2.3GHz with floating-point and NEON extensions enabled
- RAM: 8MB during enroll and fingerprint verification

Quick reference data – Touch Fingerprint Sensor FPC1020

PARAMETER	DESCRIPTION	VALUE	UNIT
Interface	SPI	4+1	pin
Supply voltage	VDD voltage (IO voltage 1.8 – 3.3)	1.8	V
Supply current	Typical at 1.8V	6	mA
Supply current sleep mode	Finger detection active, typical	2.6	µA
Supply current deep sleep	Typical	1.3	µA
Pixel matrix	508dpi resolution	192 x 192	pixels
ESD protection	IEC61000-4-2, level X , air discharge	±30	kV
Wear-and-tear	No of wear cycles at 0.6N	>10 million	times
FRR target		1	%
FAR target		1/100.000	
Operating temperature		-40 to +85	ºC

Availability

Engineering samples available in December 2013.
Volume order placements from Q1 2014.

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