
SFC160S-GL/GF

Reader

**Product
Specification**

DOC. VERSION 1.0

Startek Engineering Incorporated

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Specification Revision History

Doc. Version	Revision Description	Date
1.	Initial version	2017/04/20

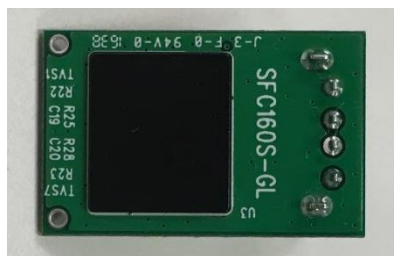


1 General Description

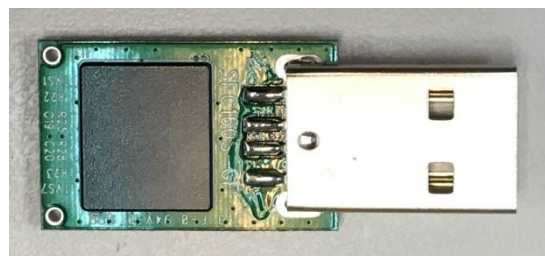
SFC160S-GL/GF fingerprint image sensor is based on capacitive-contact technology with hardened surface and enhanced ESD resistivity. There are 160x160 sensor pixels to construct sensor area of 8.0x8.0 mm² because each pixel size is 50x50 μm²

The Build-in analog and digital circuitry minimizes the number of external component, and provides easy-to-use standard USB interface to microprocessors. The operation of SFC160S-GL/GF is controlled through registers, following a simple protocol. The captured image quality can be adjusted by setting gain, offset or reference voltage parameters. The internal operation and interface speed can also be configured to the need.

This product is a mini fingerprint algorithm module and can be used with STARTEK's capacitive chip sensor reader. SFC160S-GL/GF has a wide range of applications but focuses mostly on authentication applications.



SFC 160S-GL



SFC 160S-GF

2 Features

- Performance: 1:1 and 1:N matching speed are both less than 1 second.
- Small Size: SFC160S-GL/GF is more cost effective and is flexible to be integrated to any device (Mobile/Tablet/Notebook)
- Easy Integration: It is very easy to capture fingerprint image, enroll and match fingerprint through USB interface.
- ISO Standard: ANSI/INCIT 378 Compliant Extractor & Matcher.
- Low Power Consumption
- Low FRR/FAR
- Small template size
- Support verification on various platforms

■ Coating

Surface	Matte
Sensor Color	Black
Color number	Pantone 433C
RCA(175g)	>200



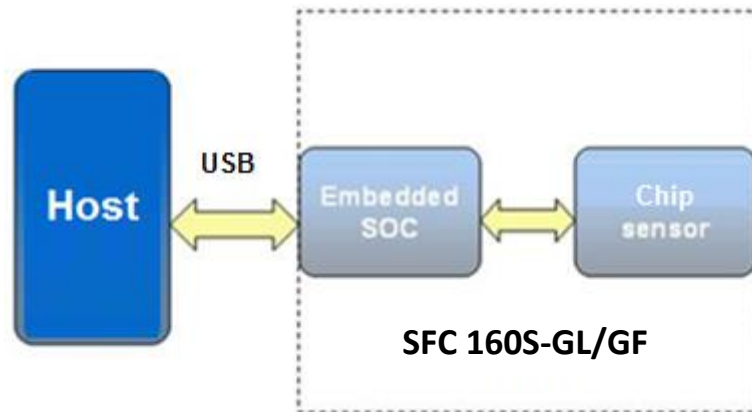
- Control unit
 - Operation voltage
 - ◆ System Operation voltage (suggested): 2.8~3.3V
 - Operating temperature range: 0°C ~ 80°C

3 Specification

Sensors	Capacitive Chip sensor
Scanning Speed	30 Frame/sec
Image Resolution	508 dpi
Gray Level	8 bits/pixel, max 256 gray scales
Image Ratio of Length to Width	1 : 1
Interface	USB
Power	DC 5V (Suspend: <0.6mA, Matching duration: 25mA)
PCB Dimension	25 x 16 mm
Operating Temperature	0°C ~ 70°C
Operating Humidity	0~95% Non-condense
Verification speed	1:1, 80 msec, 1:N 250 msec
FRR (False Rejection Rate)	1/100
FAR (False Acceptance Rate)	1/100,000
ESD	15 KV



4 Block Diagram



5 Application Information

5.1 Mechanical Support

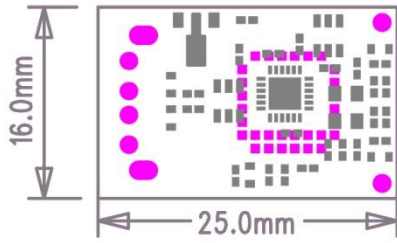
The best way to ensure a solid sensor mount is to apply a stable, non-conductive support to the back side of the sensor component. This non-conductive support can preferably be attached to the entire back side area.

5.2 ESD Protection

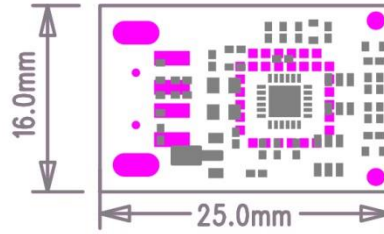
The SFC160S-GL/GF has a robust sensor surface coating. Passive components are necessary to integrate the SFC160S- GL/GF into the system, including a Transient Voltage Suppressor (TVS) for Electrostatic Discharge (ESD) protection purposes, and de-couple capacitor.



6 Mechanical Specifications



SFC 160S-GL



SFC 160S-GF



SFC 160S-GL

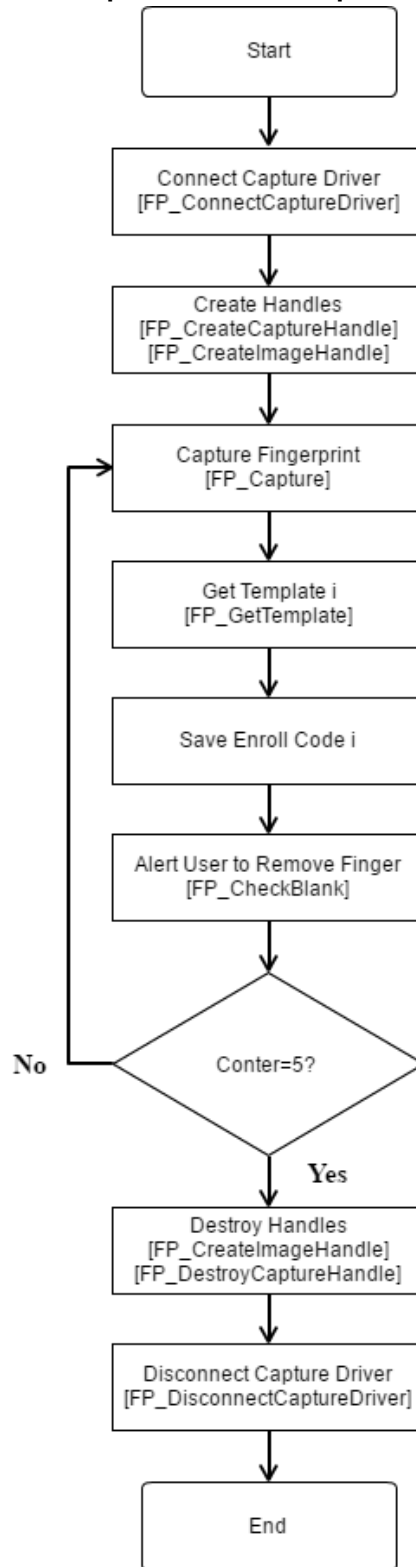


SFC 160S-GF

7 SDK Process Flowchart

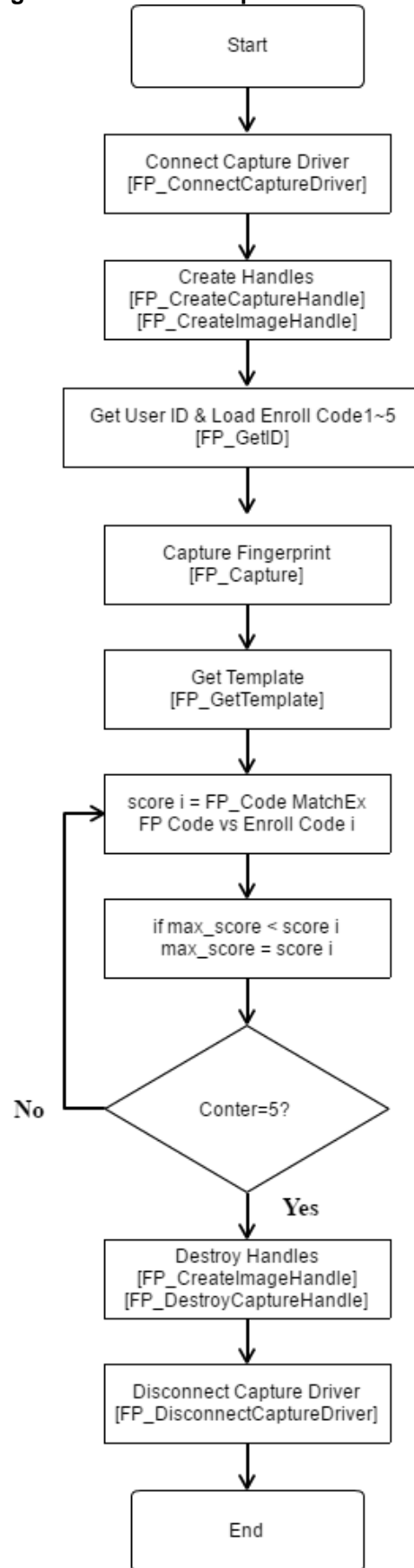
7.1 Windows

The following diagram shows the simplified enrollment process flow :



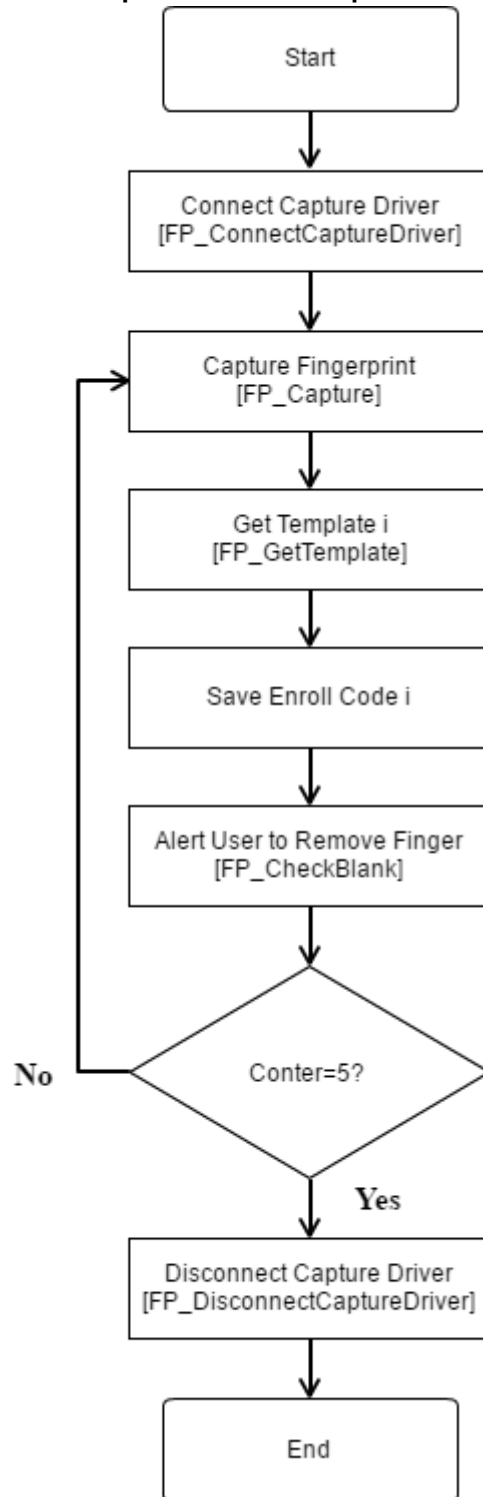


The following diagram shows the simplified verification process flow:



7.2 Linux

The following diagram shows the simplified enrollment process flow :





The following diagram shows the simplified verification process flow:

