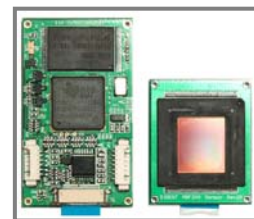


KEY FEATURES

- Embedded Stand-alone Fingerprint Identification Module (FIModule)
- Verification (One-To-One) and Identification (One-To-Many)
- Onboard Template & Record Data Storage
- Simple Serial RS-232C/CMOS Interface
- Downloading/Uploading Template from/to Host
- Easy to integrate giving minimal Time-To-Market



APPLICATION

- Fingerprint based access control systems & door-lock
- Fingerprint personal identification system
- Time attendance system using fingerprint
- Fingerprint based weapon control system
- Bank employee and customer identification system using fingerprint (Possibly combined with IC card)
- Fingerprint based machine control
- Fingerprint based car locks

DESCRIPTION

IZZIX FingerENGINE in FIModule follows the commonly accepted fingerprint identification scheme, which uses a set of specific fingerprint feature points (minutiae). However, it contains many powerful algorithmic solutions, which enhance the system performance and reliability. Some of them are listed below:

- Quality Check of Fingerprint Image
- Fully Tolerant to Fingerprint Distortion and Rotation(360°)
- Classification Feature by Global Feature Vector
- Efficient Feature Extraction
- Fingerprint Enroll Mode with Feature Collection
- Suitable Algorithm to 1:1 and 1:N Mode

And, FIModule acts as a biometric subsystem with template & record data storage. FIModule can be used to any fingerprint application and be controlled by a host sending/receiving command via the standard serial interface. FIModule makes fingerprint templates and stores directly in flash memory. Templates can also be exported for external memory and be imported by external fingerprint device and IZZIX FingerENGINE algorithm.

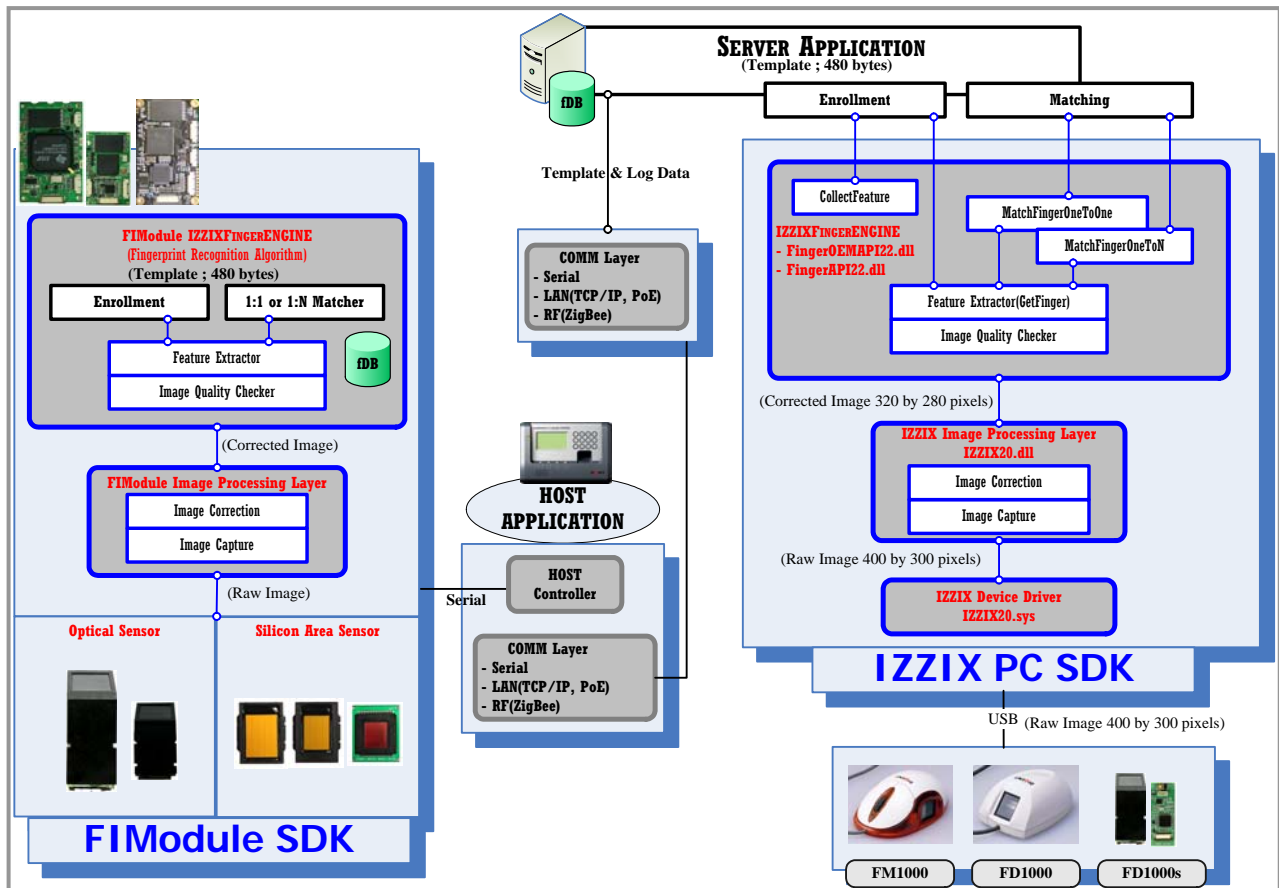
QUICK SPECIFICATION

Response Time(sec)	1:1 Mode	Enrolled Fingerprints		Matching OK	
			500		< 0.8
	1:N Mode		1,000		< 1.1
			2,000		< 1.6
					< 2.4
FAR(False Acceptance Rate)	< 0.0001 %				
FRR(False Rejection Rate)	< 0.1 %				
Matching Mode	Verification(1:1 Mode), Identification(1:N Mode)				
Times of Enrollment (E _T)	Feature Collection Mode, FCMode	3 times ⇒ 1 feature data/1 user			
	Feature Exclusive Mode, FEMode	n times (normally n = 5) ⇒ n feature data/1 user			
Memory Size	2Mbytes FlashROM				
Number of Fingerprint & Record	FCMode	2,000		40,000	
	FEMode	400 (if E _T = 5)			
User Data Size	512 Bytes (= 480 Bytes Template Data + 32 Bytes Header Data)				
Record Data Size	16 Bytes				
Start-up Time	> 420msec				
Reset Time	> 420msec (POWER ON State)				

Digital Signal Processor	TI TMS320VC5502				
Fingerprint Board	FB2055A1-TCH2				
Fingerprint Sensor	MS1(MBF200), Solid State Fingerprint Sensor (FUJITSU)				
Dimensions & Weight	FB2055A1-TCH2	51 × 30 × 8.5 mm		< 11 gr	
	MS1 (MBF200)	34 × 28 × 5 mm (24 × 26 × 1.4 mm)		< 5 gr	
Active Area Size	12.8 × 15 mm				
Array Size(Pixels) & Resolution	256 × 300 & 500DPI				
Operating Voltage	5VDC				
Power Consumption (5VDC)	Standby	86mA	Sensing	96mA	
	PowerDown1	69mA	PowerDown2	64mA	
	PowerDown3	30mA	PowerDisable	< 6uA	
Temperature/Humidity	0°C ~ 60°C / 15% ~ 80 %				
External Interface	7Pin Connector : RS232C Level UART				

This specification is subject to change without prior notice.

June 25, 2007



Ordering Information

•FC2055A1 Module Series

FC2055A1 – x1 – x2 x3 x4 x5

FC20	Algorithm Version V20 series	
55A1	DSP TMS320VC5502(BGA)	
① x1	Solid State Fingerprint Sensor	MS1(MBF200) by Fujitsu
② x2	Communication Interface (Hardware)	R : RS232C
③ x3	Flash Memory Capacity (Number of Fingerprints)	M2 : 2M Byte (2000 Fingerprints)
④ x4	Supply Voltage	V50 : 5.0 Volt
⑤ x5	Total Length(TL) and Insulation Length(IL) of FFC Cable : TL(IL) L160 / L120 / L80 -> 160(150) / 120(110) / 80(70)mm	

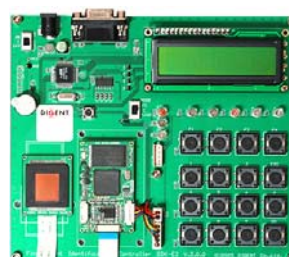
FIModule	Fingerprint Board
FC2055A1 – MS1 – RM2V50L160(L120, L80)	FB2055A1 – TCH2

•FC2055A1 SDK

FC20 SDK-E1 (55A1-MS1)



FC20 SDK-E2 (55A1-MS1)



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