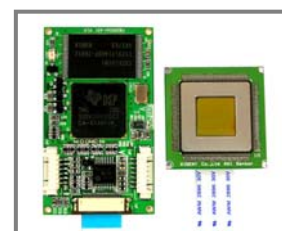


KEY FEATURES

- 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 by Feature Exclusive Mode
- 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)	Enrolled Fingerprints		Matching OK
	1:1 Mode	5 (1 user)	0.8
1:N Mode	500 (100 users)	< 1.1	
	1,000 (200 users)	< 1.5	
	2,000 (400 users)	< 2.3	
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 Exclusive Mode, FEMode	n times(normally n = 5) ⇒ n feature data/1 user	
Memory Size	2Mbytes FlashROM		
Number of User & Record	FEMode	400 (if E _T = 5)	40,000
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		

Digital Signal Processor	TI TMS320VC5502		
Fingerprint Board	FB2055A1-TCH2		
Fingerprint Sensor	AS1(AFS8600), Silicon Area Sensor (AuthenTec)		
Dimensions & Weight	FB2055A1-TCH2	51 × 30 × 8.5 mm	< 11 gr
	AS1(AFS8600)	28 × 28 × 6 mm(20 × 20 × 1.6 mm)	< 5 gr
Active Area Size	9.75 × 9.75 mm		
Array Size(Pixels) & Resolution	96 × 96 & 250 DPI		
Operating Voltage	5VDC		
Power Consumption (5VDC)	Standby	94mA	Sensing 140mA
	PowerDown1	68mA	PowerDown2 62mA
	PowerDown3	30mA	PowerDisable < 6uA
Temperature/Humidity	0°C ~ 70°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

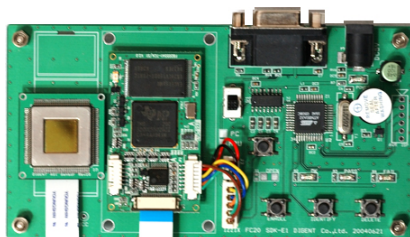
FC2055A1 – x1 – x2 x3 x4 x5

FC20	Algorithm Version V20 series	
55A1	DSP TMS320VC5502(BGA)	
① x1	Silicon Area Sensor	AS1(AFS8600) by AuthenTec
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 – AS1 – RM2V50L160(L120, L80)	FB2055A1 – TCH2

•FC2055A1 SDK

FC20 SDK-E1 (55A1-AS1)



FC20 SDK-E2 (55A1-AS1)

