BKS-1700

Stand-Alone Fingerprint Module

Chiyu Technology Co., Ltd.

Table Of Contents

1. Features

-Low cost fingerprint module
  * ARM9 core processor
-Optical Fingerprint ID Module
  * Solid sensor surface
  * High quality fingerprint image
-On-board Memory & CPU
-Compact size
-Low Power Consumption
-Outstanding Algorithm

2. Applications

-Access Control
-Automobile
-Set top Box
-Brief Case
-Door Lock, Safe Lock
-Time and Attendance management
-POS system
-Smart card, ATM
-Other Security Equipment

3. Specifications

- **Operating range**

Parameter	Min	Typical	Max	Unit
Supply Voltage	4.75	5	5.25	V
Current at 5V	90	100	130	mA
Temperature Range	-20	-	60	^{0}C
Humidity	0	-	90	%

- **Communication**
  - 1 RS-232C Port
  - Available speed 9600,19200,38400,115200bps
  - Initial speed : 19200bps
  - Parameter : no flow control , 1 stop bit , 8 data bit

	In/Out	Type	Description	Voltage
RXD	IN	-	232input signal	Max ±15V
TXD	OUT	-	232 Output Signal	Min ± 5V
SG	-	-	Signal ground	-

- **Other input**

	Active	Type	Description	Max Voltage	Max current
/RESET	Low	TTL	BKS-1700 reset input	5.5V	-

- **Algorithm performance**

- Fingerprint Sensor : Optical type
- Fingerprint Sensor Resolution : 500dpi
- Fingerprint Sensor Scan Area : 18mm(H) x 16mm(W)
- Fingerprint data size: 256 bytes
- Authentication time: shorter than 1.0 second (average)
- False rejection rate: Under 0.01 %
- False acceptance rate: Under 0.001 %

- **Maximum user Capacity**

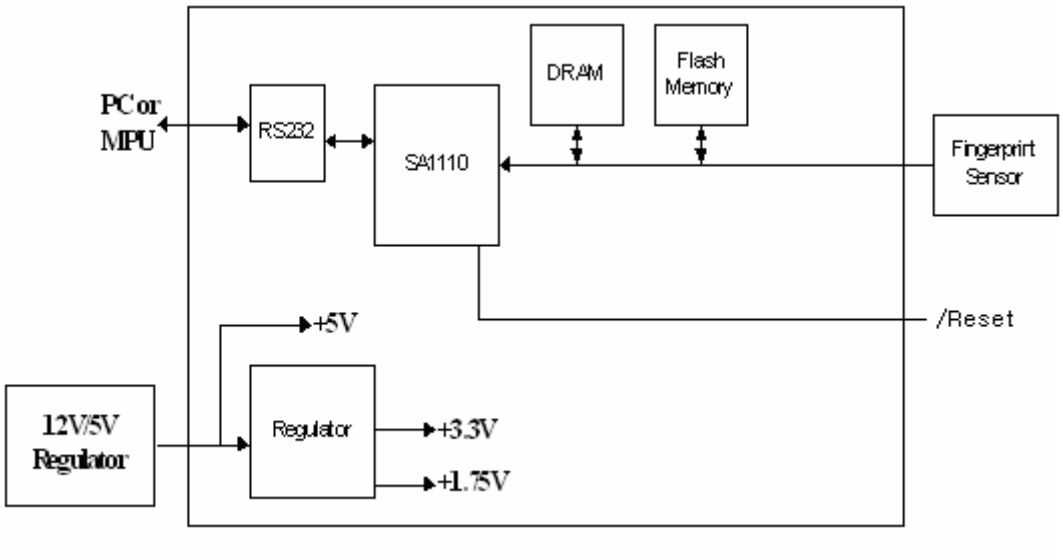
- 10,000 person (2 Templates per person)

- **Mechanical**

- Optical fingerprint sensor : 21mm(W) x 23mm(L) x 52mm(H)
- Fingerprint capture window : 18mm(W) x 16mm(H)
- Main board : 60mm(W) x 43mm(L) x 8.6mm(H)
- Weight : 100 g

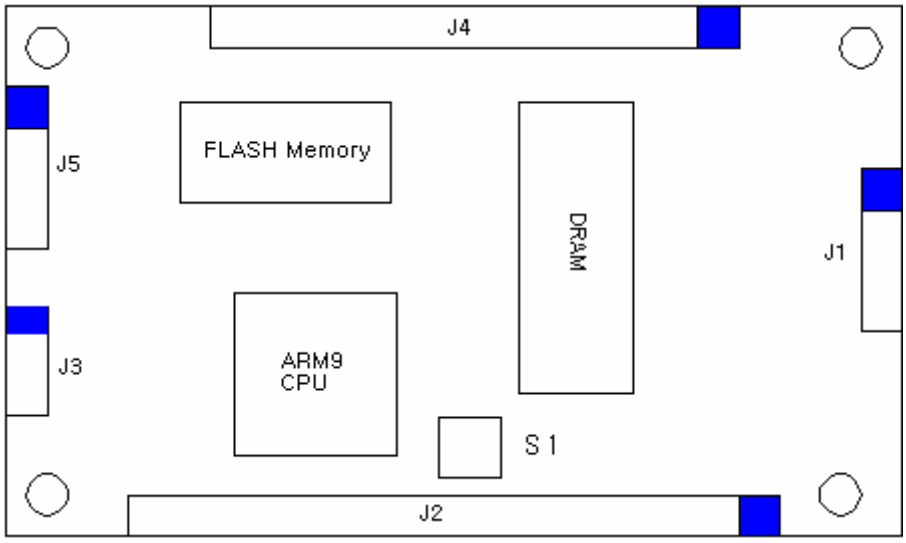
4. Configuration Diagram

Block Diagram

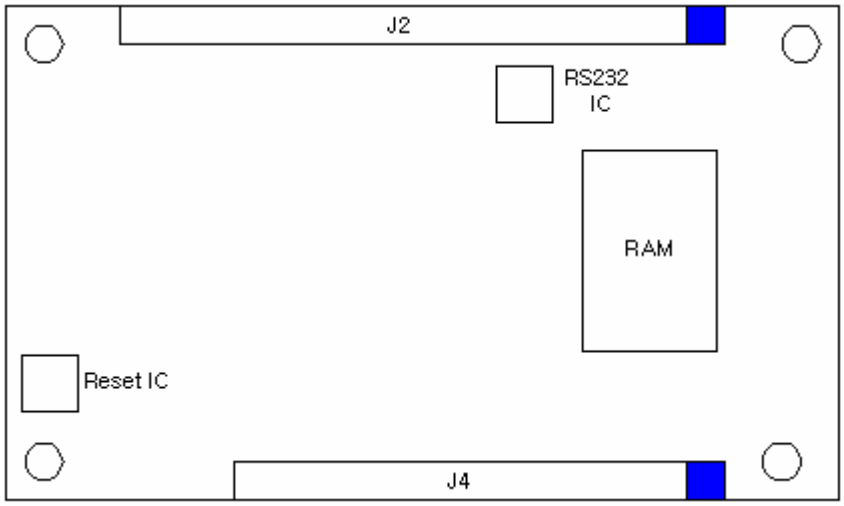


< Picture 1 >

- **Layout**



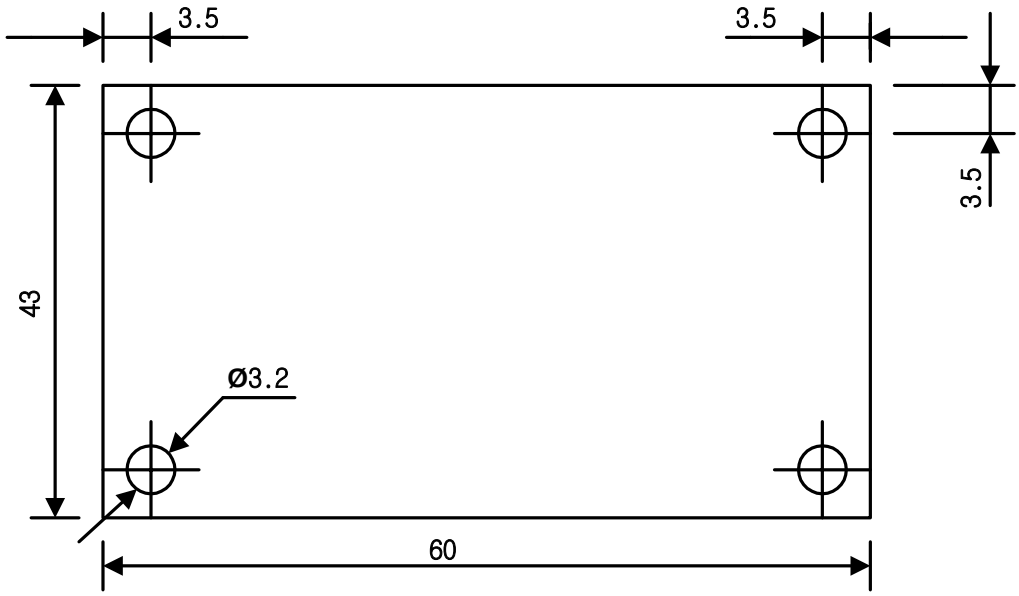
< Picture 2 : Front >



< Picture 3 : Back >

- J1: Fingerprint sensor connector.
- J2,J3: Power and serial communication connector.
- S1 : Main board reset switch.

- **Dimension**



< Picture 4 >

5. Connector Specifications

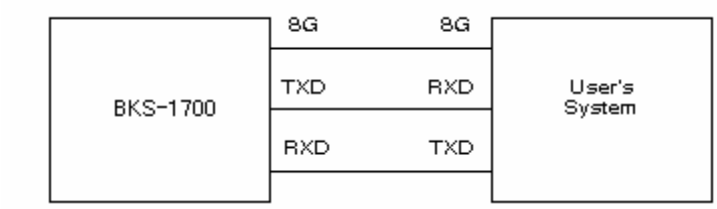
There are two ways as to the interface of the BKS-1700 module from a user's system. One is that the 15 pin, 2.54mm pitch through hole connector (J1) in the side is used. And the other is that the 5pin connector (J2, Molex 51021-05 compatible female connector) is used.

J3 Pin assignment

Caution : VCC and GND is needed a standard voltage and the pinpoint connection. The module should not work or burn for deathblow like an opposite connection and higher voltage.

- **Connector Specification : Molex 51021-05 is compatible female connector, Please go to Molex website(http://www.molex.com) to know detail information of 51021-05.**

- **Connection method**



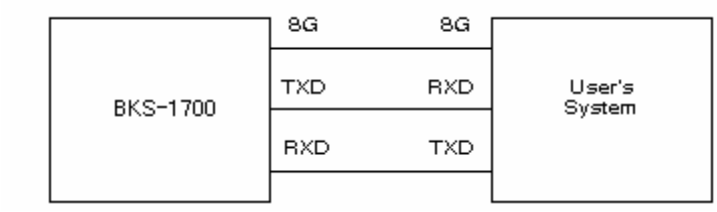
- **Pin Specification**

Pin	Name	Description
1	VCC	Input power
2	GND	Power ground
3	SG	Signal ground
4	RXD	RS232 receive data line
5	TXD	RS232 transmit data line

< Table 2. J3 Pin specification >

J2 pin assignment

- **Spec: 2.54mm pitch, 15 pin, pin header**
- **Connection Method**



- **Pin Specification**

Pin	Name	Description
1	None	
2	None	
3	None	
4	None	
5	None	
6	None	
7	None	
8	None	
9	None	
10	/RESET	Reset input
11	VCC	Input power
12	GND	Power ground
13	RXD	RS232 receive data line
14	TXD	RS232 transmit data line
15	SG	Signal ground

< Table 2 : J2 Pin Specification >

6. Product feature

Picture 5. BKS-1700, Front : connecting optic scanner to board 1(BKS-1700)

Picture 6. BKS-1700, Rear: connecting optic scanner to board 2(BKS-1700)

7. Caution

(Please see that it could get damaged from below caution list as this product is made up of sensitive electronic parts, can have easily affected from environment.)

It could be shown an error message that products have been close of magnets.
The surface of fingerprint scanner should be grained gently with a soft dry cloth and a glass clear.
The fingerprint scanner should be protected from pollution or stock.
Don’t use with dirty hands stained water, oil, dusty etc.(Please grains gently with soft cloth after brushing off softly.)
Don’t touch the scanner except fingers.
It could be failed when an infant (under 6 years old) or a person has bad fingerprint condition (an old person, a person has a job using hands hard- a rock-climber) tries fingerprint registrations.
Don’t shocks or grain with wet tissue?
It can not be communicated when TID, Baud Rate is not correct.
Don’t connect the opposite side of VCC and GND. It could be damaged.
It could be miss-operated if it is used the adapter is out of the specification.
Change system password is settled. If not, it could be led troubles.
Remember the angle when you register a fingerprint. It can’t recognize that the angle of degree is turning over 30~45 degree.