

Description:

Fingerprint scanners have been easily available at a consumer level for several years now, so it is only logical that they would continue to grow and evolve as time moves on. That's what bring us to this Capacitive Fingerprint Scanner from ADH-Tech. The AD-013 fingerprint sensor module is a combination fingerprint scanner and MCU and provides a UART interface port for easy functionality. The AD-013 sets itself apart from other fingerprint scanners with the ability to read a fingerprint's image by pixel array and delivering ridge or valley signals to the A/D converter and digital processor, then to the serial peripheral interface for data-reading. The on-board MCU uses a fingerprint algorithm allowing you, through UART, to use MCU SOC commands to operate module like fingerprint enroll, match operations, and more.

Features:

1. 160x160 pixels
2. Build-in ADC for digitizing image.
3. UART interface
4. Data encryption
5. Short read out time.
6. Cost effective sensor.
7. High sensing capability
8. Single power supply

Specifications:

- Image resolution 508dpi
- Sensing area 8mm x 8mm
- Sensing array 160 x 160 pixels
- Package size 29mm x 19.6mm x 6.06mm(H)
- Gray Level 8 bits/pixels ,256 gray scales
- Recognition Time 1:N , < 0.6 second
- Template capacity 40
- FRR (False Rejection Rate) 6%
- FAR (False Acceptance Rate) <0.01‰
- Interface UART (57600, 8, N, 2) / TTL level
- Supply voltage 3.3V
- Total supply current 40mA
- Operating Humidity 0 - 95% , Non-condense
- Operating temperature -20 to +70 °C
- ESD protection for air discharging 8kV

Electrical characteristics:

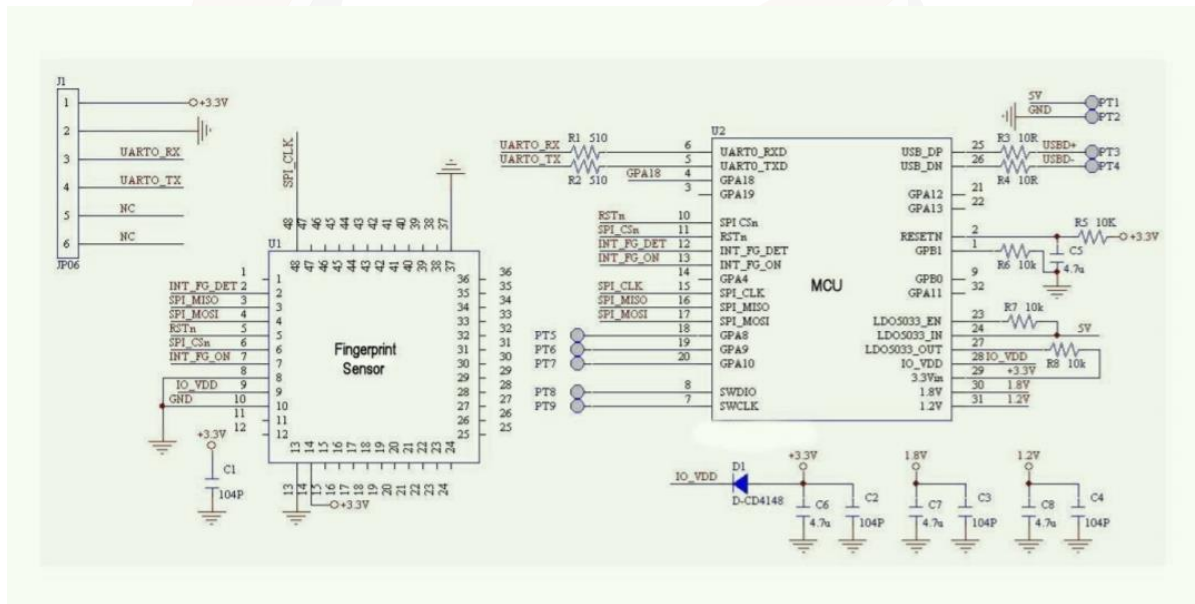
- **Maximum Rating:**

Symbol	Parameter	Conditions	Value	Unit
VDD	Supply voltage	-	4	V
TA	Operating temperature	-	-20 to 70	°C
ST	Storage temperature	-	-40 to 85	°C

• **Operating Conditions:**

Symbol	Parameters	Conditions	Min	Typ	Max	Unit
VDD	Supply voltage	-	3.0	3.3	3.6	V
IDD	Total supply current	Capture mode	-	-	40	mA
IDD	Supply current	Standby mode	-	-	18	mA
ESDKV	ESD protection	Air mode	-	±8	-	kV

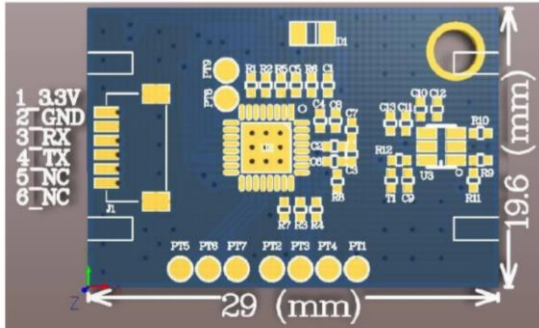
Schematic diagram:



Pin function:

Pin No	Pin Name	Type	Description
1	3.3V	Power in	Module power input pin. Supply 3.3V
2	Gnd	Ground	Module system ground.
3	RX	Input	Module UART reception pin.
4	TX	Output	Module UART transmission pin.
5	NC	-	-
6	NC	-	-

Outer dimension:



Applications:

- Door lock
- Security device
- Access control system