



Midas Touch

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We are dedicated to developing sensing technology, and providing customers with an innovative and diverse range products.

With the state-of-the-art algorithm technology, there are many brand products with our advanced image technology in the market.

MTP-2418 240*180 Pixel
Thermal Module Datasheet

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Revision History

| Date | Revision | Contents |
|----------|----------|---------------|
| 2022/6/3 | V1.0 | First release |
| | | |



1. Key parameter

- Resolution 240x180 Pixel, frame rate <9Hz
- Temperature measurement range -10°C ~ 300°C
- Temperature measurement accuracy $\pm 1^\circ\text{C}$ or $\pm 1\%$ of reading
- Optional multiple lenses and FOV
- Mini size W24.5mmxH33.1mmxD18.7mm
- High-speed serial port, SPI output interface
- Multimodal Scene Algorithms

2. Key specifications

| | | |
|--------------------------------|--------------------------------------|---|
| Detector | Detector type | Uncooled infrared focal plane |
| | Resolution | 240 (H) x 180 (V) |
| | IR Wavelength | 8 - 14 μm (Thermal LWIR) |
| | Pixel spacing | 17 μm |
| | NETD (Ge Lens) | $\leq 60\text{mk}$ |
| Video & Interface | Frame rate | <9Hz |
| | Image correction | Automatic calibration at boot |
| | Output Interface | serial port-USB / SPI / UART |
| Power system | Power Consumption | $\leq 500\text{mW}$ |
| | Power supply | 5.0V |
| Temperature measurement | Measurement range | -10°C ~ 300°C |
| | Temp. measurement accuracy | $\pm 1^\circ\text{C}$ or $\pm 1\%$ of reading |
| | Temp. measurement method | Full-scale temperature measurement |
| | Temp. measurement data output | Output 160 x 120 temperature data per frame |



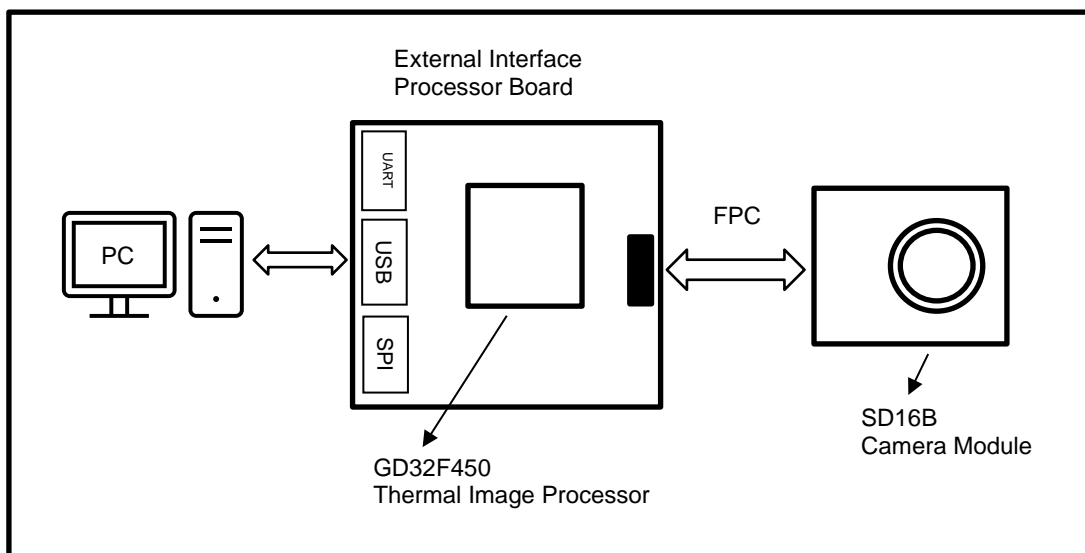
| | | |
|-----------------------------------|----------------------------|-----------------------------|
| Dimensions and assembly | Standard lens | F3.85mm / F1.0 |
| | FOV | 55.8° x 43.3 ° |
| | Dimensions (Sensor) | W24.5mm x H33.1mm x D18.7mm |
| | Dimensions (PCBA) | W35.40 x 37.00 x 5.44mm |
| | Dimensions (FPC) | L50mm x W8mm |
| | Weight | 21g |
| Environmental adaptability | Working temp. | -10°C ~ 50°C |
| | Storage temp. | -40°C ~ 70°C |



3. The application to measure human body temperature characteristics

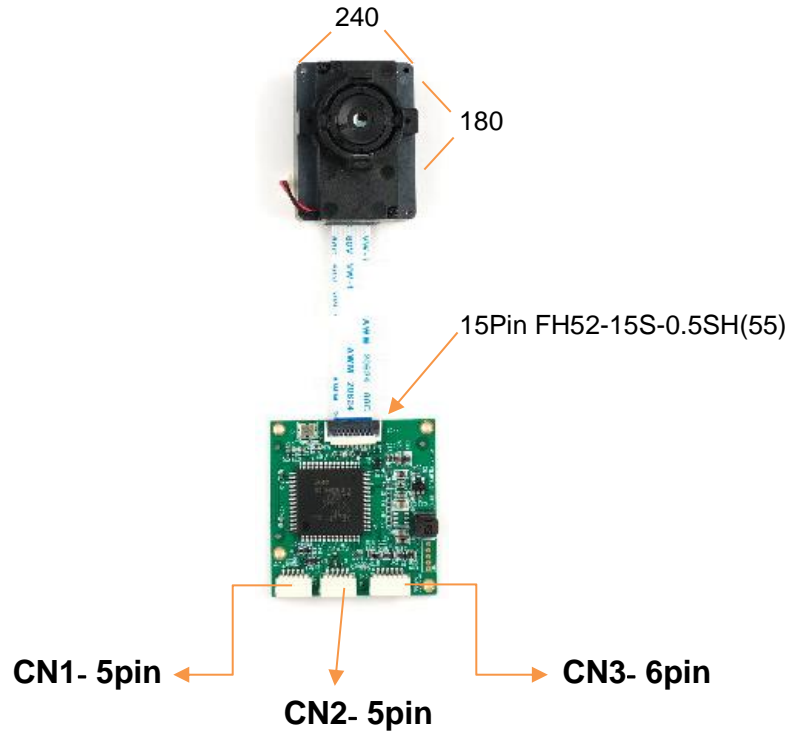
4. MTP-2418-V1-G Interanal Connections

The following diagram provides a high-level view of the physical and electrical connections within components of the MTP-2418-V1-G





6. Pin Description



CN1) The UART interface signals are :

| Pin Number | Name | Pin Type | Function Description |
|------------|------|----------|----------------------|
| 1 | RX | RX | Receive |
| 2 | TX | TX | Transport |
| 3 | GND | GND | System Ground |
| 4 | RST | RST | Reset |
| 5 | ROOT | ROOT | Root Pin |



CN2) The USB interface signals are :

| Pin Number | Name | Pin Type | Function Description |
|------------|------|----------|-----------------------|
| 1 | VCC | Power | USB Power Supply 5V |
| 2 | D- | DM Pin | USB Data Transmission |
| 3 | D+ | DP Pin | USB Data Transmission |
| 4 | GND | GND | System Ground |
| 5 | NC | NC | NC |

(CN3) The SPI interface signals are :

| Pin Number | Name | Pin Type | Function Description |
|------------|------|----------|------------------------|
| 1 | NSS | Out | SPI – Slave select |
| 2 | SCK | In | Serial clock from host |
| 3 | MISO | Out | Serial data |
| 4 | MOSI | In | Serial data |
| 5 | GND | GND | System Ground |
| 6 | VCC | Power | USB Power Supply 5V |



7. Ordering Information



D



C



B



A

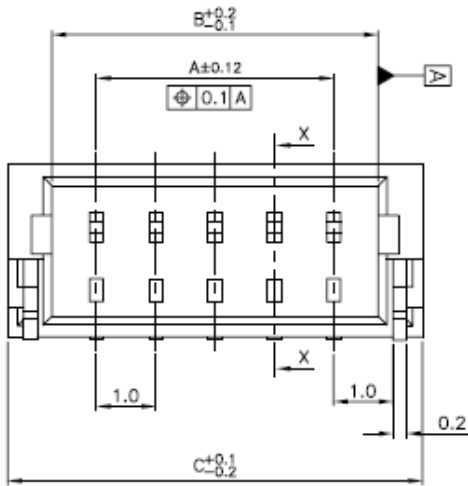
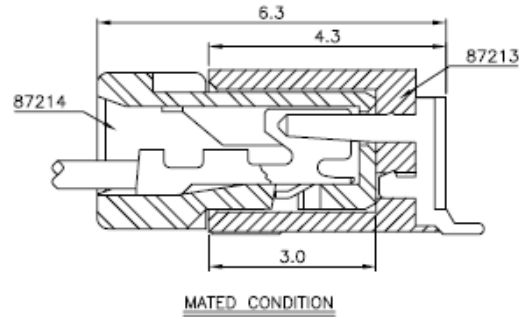
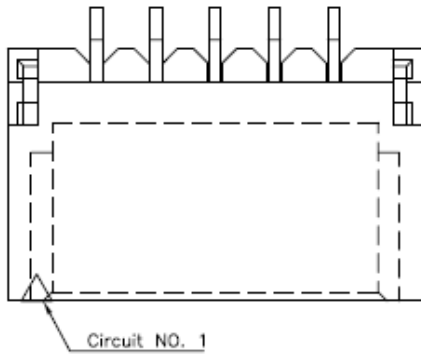
| Item | Item Name | Parts No |
|------|----------------|-----------------------|
| A | Thermal Sensor | MSD16B |
| B | 50mm FPC | |
| C | Control Board | MFA-1612-G01 |
| D | 75cm USB Cable | MST-2002011-A0-200213 |

Item A + B + C = MTP-2418-V1-G

Item A + B + C + D = MTP-2418C-V1-G



8. Connector Specification (1.0pitch 5pin & 6pin)



| CKT | Dim A | Dim B | Dim C |
|-----|-------|-------|-------|
| 5 | 4.0 | 5.4 | 7.0 |

