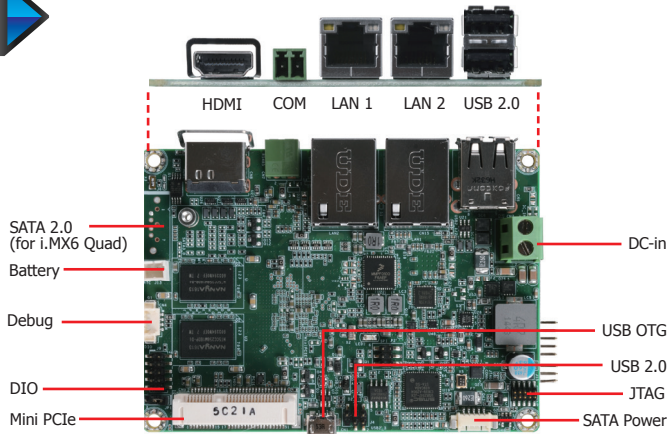




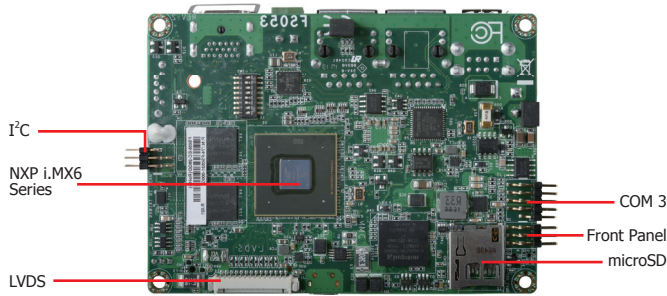
# NXP i.MX6 Series 2.5" Pico-ITX

## FS053

ARM



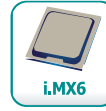
Top View



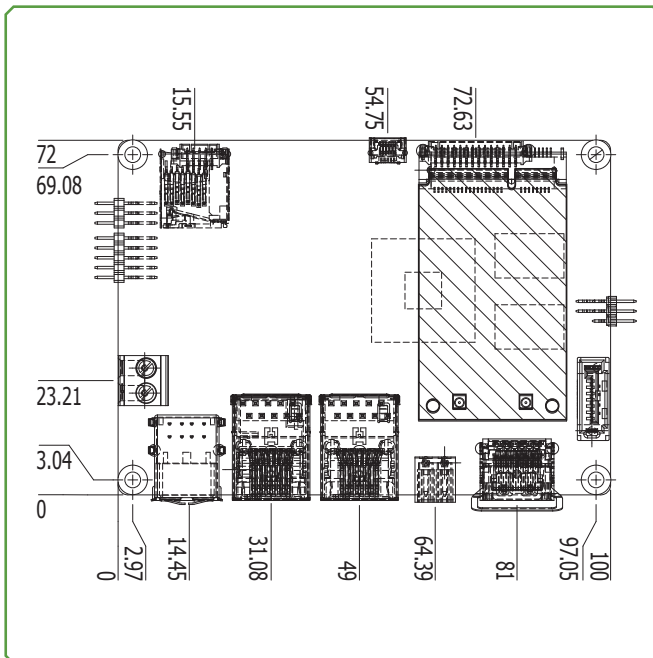
Bottom View

### Features

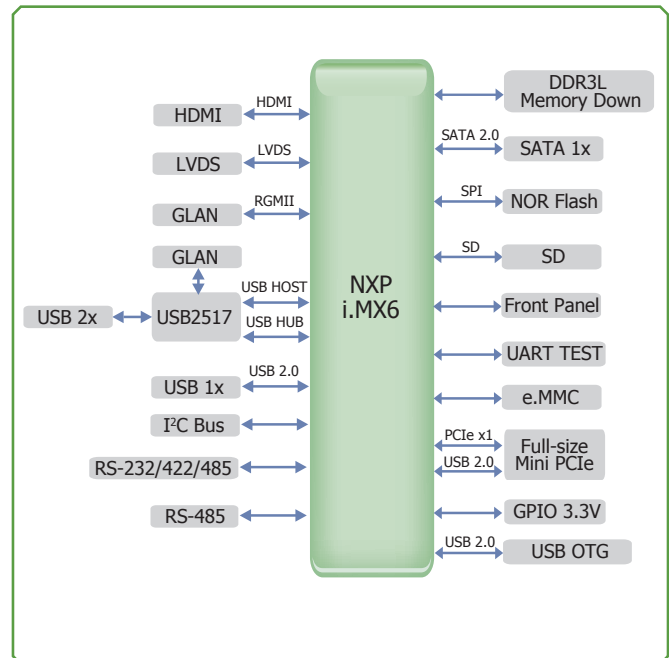
- NXP Cortex-A9 i.MX6 DualLite 1.0 GHz/Quad 1.0 GHz
- 9~36VDC wide voltage
- DDR3L SDRAM memory down , up to 4GB.
- Dual independent displays: HDMI + LVDS
- Expansion: 1 Mini PCIe, 1 SD
- Rich I/O: 2 GbE, 2 COM, 4 USB 2.0



### Mechanical Drawing



### Block Diagram



## Specifications

|                       |                              |  |
|-----------------------|------------------------------|--|
| <b>SYSTEM</b>         | <b>Processor</b>             | NXP i.MX6 Cortex-A9 Dual Lite, 1.0 GHz<br>NXP i.MX6 Cortex-A9 Quad, 1.0 GHz  |
|                       | <b>Memory</b>                | 1GB/2GB SDRAM Memory Down (default), 4GB (available upon request)<br>Single Channel DDR3L 1600/1866MHz                     |
|                       | <b>Flash</b>                 | 4MB NOR Flash  |
| <b>GRAPHICS</b>       | <b>Display</b>               | 1 x HDMI<br>1 x LVDS<br>HDMI: resolution up to 1920x1080 @ 60 Hz<br>LVDS: single channel, resolution up to 1366x768 @ 60Hz |
|                       | <b>Single/Dual Displays</b>  | Yocto: HDMI or LVDS (Default)<br>Android: HDMI + LVDS (available upon request)   |
| <b>EXPANSION</b>      | <b>Interface</b>             | 1 x Full-size Mini PCIe (PCIe/USB)   |
| <b>ETHERNET</b>       | <b>Controller</b>            | 1 x ATHEROS AR8033 Ethernet (10/100/1000Mbps)<br>1 x LAN7500 Ethernet (10/100/1000Mbps)                                    |
| <b>REAR I/O</b>       | <b>Ethernet</b>              | 2 x GbE (RJ-45)  |
|                       | <b>Serial</b>                | 1 x RS-485 (2-wire)  |
|                       | <b>USB</b>                   | 2 x USB 2.0<br>1 x USB 2.0 OTG Port  |
|                       | <b>Display</b>               | 1 x HDMI   |
| <b>INTERNAL I/O</b>   | <b>Serial</b>                | 1 x RS-232/422/485 (8-wire)  |
|                       | <b>USB</b>                   | 1 x USB 2.0  |
|                       | <b>Display</b>               | 1 x LVDS LCD Panel Connector   |
|                       | <b>SATA</b>                  | 1 x SATA 2.0 (up to 3Gb/s) (Quad processor only)   |
|                       | <b>eMMC</b>                  | Supports 8GB, 16GB and 32GB eMMC onboard   |
|                       | <b>SD</b>                    | 1 x Micro SD Slot  |
|                       | <b>DIO</b>                   | 1 x 8-bit DIO  |
| <b>WATCHDOG TIMER</b> | <b>Output &amp; Interval</b> | System Reset, Programmable via Software from 1 to 255 Seconds  |
| <b>POWER</b>          | <b>Type</b>                  | 9~36V DC   |
|                       | <b>Connector</b>             | Terminal block (2-pin)   |
|                       | <b>Consumption</b>           | Typical: 12V @ 0.355A (4.26Watt)<br>Max.: 12V @ 0.631A (7.58Watt)  |
| <b>OS SUPPORT</b>     |                              | Yocto (1.8, Default Preloaded on eMMC)<br>Android (5.1.1)  |
| <b>ENVIRONMENT</b>    | <b>Temperature</b>           | Operating: -20 to 70°C/0 to 60°C<br>Storage: -40 to 85°C   |
|                       | <b>Humidity</b>              | Operating: 5 to 95% RH<br>Storage: 5 to 95% RH   |
|                       | <b>MTBF</b>                  | 486,335 hrs @ 25°C; 342,613 hrs @ 45°C; 237,430 hrs @ 60°C   |
| <b>MECHANICAL</b>     | <b>Dimensions</b>            | 2.5" Pico-ITX Form Factor<br>100mm (3.94") x 72mm (2.83")  |
|                       | <b>Height</b>                | PCB: 1.6mm<br>Top Side: 16.15mm, Bottom Side: 4mm  |
| <b>CERTIFICATIONS</b> |                              | CE, FCC, RoHS  |

## Ordering Information

| Model Name           | P/N             | Processor             | Memory   | eMMC | GbE | RS-485 | RS-232/422/485 | USB 2.0 | Power                      | Thermal | Temp.       |
|----------------------|-----------------|-----------------------|----------|------|-----|--------|----------------|---------|----------------------------|---------|-------------|
| <b>FS053-BC-18DL</b> | 770-FS0532-300G | i.MX6 DualLite 1.0GHz | 1GB DDR3 | 8GB  | 2   | 1      | 1              | 4       | 9~36V DC in terminal block | Fanless | 0~60°C      |
| <b>FS053-BC-28QD</b> | 770-FS0532-200G | i.MX6 Quad 1.0GHz     | 2GB DDR3 | 8GB  | 2   | 1      | 1              | 4       | 9~36V DC in terminal block | Fanless | 0~60°C      |
| <b>FS053-EC-18DL</b> | 770-FS0532-100G | i.MX6 DualLite 1.0GHz | 1GB DDR3 | 8GB  | 2   | 1      | 1              | 4       | 9~36V DC in terminal block | Fanless | -20 to 70°C |
| <b>FS053-EC-28QD</b> | 770-FS0532-000G | i.MX6 Quad 1.0GHz     | 2GB DDR3 | 8GB  | 2   | 1      | 1              | 4       | 9~36V DC in terminal block | Fanless | -20 to 70°C |

## Packing List

|                                  |                 |
|----------------------------------|-----------------|
| • 1 FS053 board                  |                 |
| • 1 terminal block for RS485     | 342-361021-000  |
| • 1 Heat spreader (Height: 11mm) | A71-808303-000G |

Note: Please choose "FS053 product page > Download button" to download the Driver.

## Optional Items

|  |                 |
|--|-----------------|
| • USB 2.0 port cable (Length: 200mm, 1x USB ports)       | A81-001058-016G |
| • COM cable (Length: 250mm, 1x COM ports)                | A81-015044-001G |
| • Power cable for SATA and LCD backlight (Length: 155mm) | A81-020016-018G |
| • Heat sink (Height: 16.8mm)                             | A71-008105-000G |