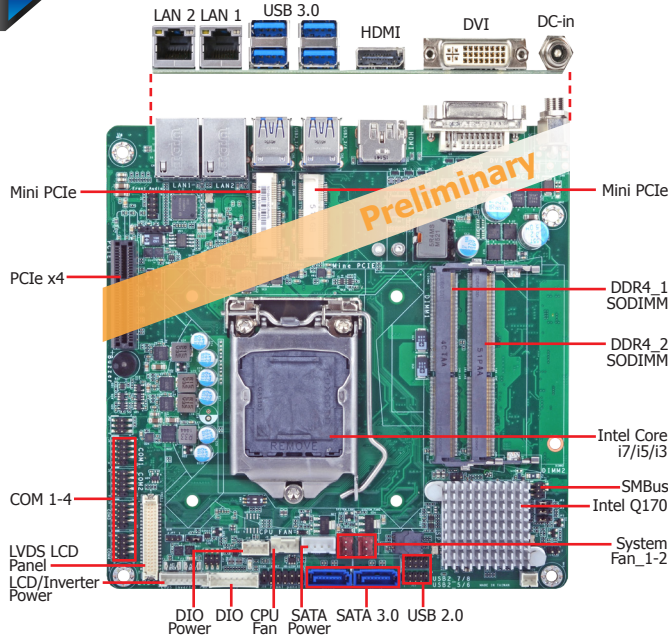
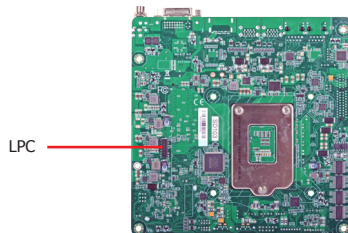


SD101/SD103-Q170

Q170



* The photos above refer to SD103-Q170.



Bottom View

Mechanical Drawing



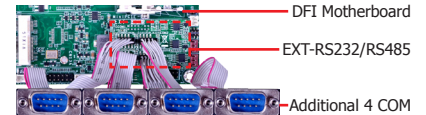
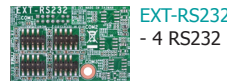
Features

- 2 DDR4 SODIMM up to 32GB
- Three independent displays: LVDS + DVI + HDMI*/DP++
- DP resolution up to 4096x2304 @ 60Hz
Dual Channel LVDS resolution up to 1920x1200 @ 60Hz
- Multiple expansion: 1 PCIe x4, 2 Mini PCIe
- Rich I/O: 2 Intel GbE, 4 COM, 4 USB 3.0, 4 USB 2.0
- LPC EXT-RS232/485 module extends additional 4 COM ports

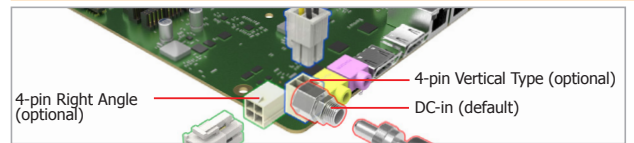
* Populated by default



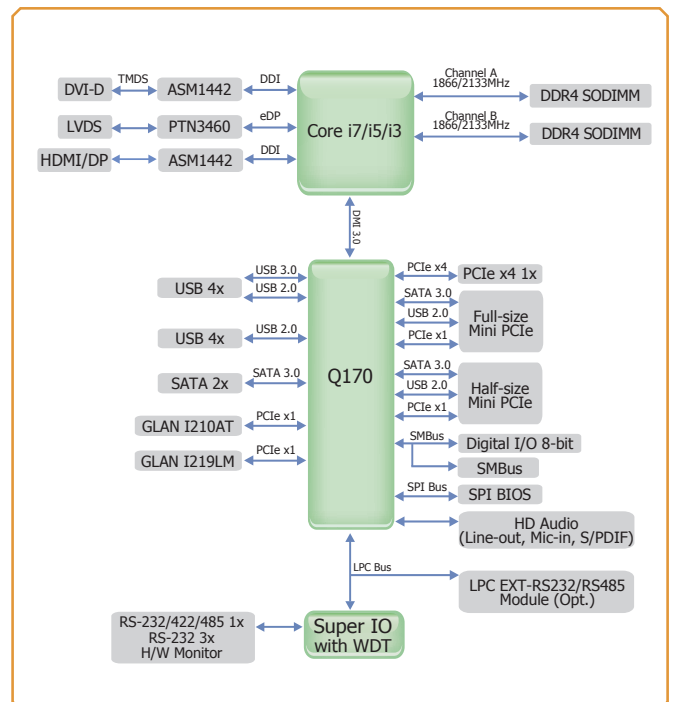
2 Extension Modules for Additional 4 COM Ports (via the LPC connector)



Power Connector



Block Diagram



Specifications

| | | | |
|---------------------|------------------------|---|---|
| SYSTEM | Processor | 6th Generation Intel® Core™ Processors, LGA 1151 Socket Intel® Core™ i7-6700, Quad Core, 8M Cache, 3.4GHz (4.0GHz), 65W Intel® Core™ i7-6700TE, Quad Core, 8M Cache, 2.4GHz (3.4GHz), 35W Intel® Core™ i5-6500, Quad Core, 6M Cache, 3.2GHz (3.6GHz), 65W Intel® Core™ i5-6500TE, Quad Core, 6M Cache, 2.3GHz (3.3GHz), 35W Intel® Core™ i3-6100, Dual Core, 3M Cache, 3.7GHz, 47W Intel® Core™ i3-6100TE, Dual Core, 4M Cache, 2.7GHz, 35W Intel® Pentium® G4400, Dual Core, 3M Cache, 3.3GHz, 47W Intel® Pentium® G4400TE, Dual Core, 3M Cache, 2.4GHz, 35W | |
| | Chipset | Intel® Q170 | |
| | Memory | Two 260-pin SODIMM up to 32GB | Dual Channel DDR4 1866/2133MHz |
| | BIOS | Insyde SPI 128Mbit | |
| GRAPHICS | Controller | Intel® HD Gen 9 Graphics | |
| | Feature | OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9 | |
| | Display | 1 x LVDS 1 x DVI (DVI-D signal) 1 x HDMI/DP++ (DP++ available upon request) | LVDS: dual channel, resolution up to 1920x1200 @ 60Hz DVI: resolution up to 2560x1600 @ 60Hz HDMI: resolution up to 2560x1600 @ 60Hz or 4096x2160 @ 24Hz DP: resolution up to 4096x2304 @ 60Hz |
| | Triple Displays | LVDS + DVI (DVI-D signal) + HDMI | LVDS + DVI (DVI-D signal) + DP++ |
| EXPANSION | Interface | 1 x PCIe x4 (Gen 3) 1 x Full-size Mini PCIe (USB/PCIe/SATA, SATA by default) 1 x Half-size Mini PCIe (USB/PCIe/SATA, PCIe by default) | |
| AUDIO | Audio Codec | Realtek ALC888S-VD2-GR | |
| ETHERNET | Controller | 1 x Intel® I210AT PCIe (10/100/1000Mbps) 1 x Intel® I219LM PCIe with iAMT11.0 (10/100/1000Mbps) (only Core i7/i5 supports iAMT) | |
| REAR I/O | Ethernet | 2 x GbE (RJ-45) | |
| | USB | 4 x USB 3.0 | |
| | Display | 1 x DVI (DVI-D signal) 1 x HDMI/DP++ (DP++ available upon request) | |
| INTERNAL I/O | Serial | 1 x RS-232/422/485 (RS-232 w/ power) (2.00mm pitch) 3 x RS-232 (2.00mm pitch) | |
| | USB | 4 x USB 2.0 (2.00mm pitch) | |
| | Display | 1 x LVDS LCD Panel Connector 1 x LCD/Inverter Power | |
| | Audio | 1 x Audio (Line-out/Mic-in) 1 x S/PDIF | |
| | SATA | 2 x SATA 3.0 (up to 6Gb/s) | RAID 0/1/5 |
| | DIO | 1 x 8-bit DIO | |
| | LPC | 1 x LPC (supports LPC EXT-RS232/RS485 module) | |
| | SMBus | 1 x SMBus | |
| | WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds |
| POWER | Type | Single 12V +/-10% DC (SD101) | Wide Range 15~36V (SD103) |
| | Connector | DC-in Jack | Right Angle Connector (4-pin) (available upon request) Vertical Type Connector (4-pin) (available upon request) |
| | Consumption | TBD | |
| | RTC Battery | CR2032 Coin Cell | |
| OS SUPPORT | | Windows 7 (32/64-bit) Windows 10 | Windows 8.1 (64-bit) |
| ENVIRONMENT | Temperature | Operating: 0 to 60°C | Storage: -40 to 85°C |
| | Humidity | Operating: 5 to 90% RH | Storage: 5 to 90% RH |
| MECHANICAL | Dimensions | Mini-ITX Form Factor | 170mm (6.7") x 170mm (6.7") |
| | Height | PCB: TBD | Top Side: TBD, Bottom Side: TBD |

Ordering Information

| Model Name | P/N | Memory | HDMI/DP++ | GbE | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | Power | Thermal | Temp. |
|---------------|-----------------|----------|-----------|-----|----------------|--------|---------|---------|--------------|---------|-----------|
| SD101-Q170NRM | 770-SD1011-100G | 2 SODIMM | HDMI | 2 | 1 | 3 | 4 | 4 | 12V DC-in | Active | 0 to 60°C |
| SD103-Q170NRM | 770-SD1031-100G | 2 SODIMM | HDMI | 2 | 1 | 3 | 4 | 4 | 15~36V DC-in | Active | 0 to 60°C |

Packing List

| | |
|--|-----------------|
| • 1 SD101/SD103-Q170 motherboard | |
| • 1 COM port cable (Length: 250mm) | A81-015011-001G |
| • 1 Serial ATA data cable (Length: 500mm) | 332-553001-005G |
| • 1 Serial ATA power Y cable (Length: 250mm) | A81-004041-016G |
| • 1 I/O shield | A49-SD1010-000G |
| • 1 DVD | |
| • 1 QR (Quick Reference) | |

Optional Items

| | |
|---|-----------------|
| • USB port cable (Length: 200mm) | 332-753059-000G |
| • COM port cable (Length: 250mm) | A81-015011-001G |
| • Audio (Line-out/Mic-in) cable (Length: TBD) | TBD |
| • Power adapter (100W, 12V, Level 6) | 671-110002-100G |
| • Power adapter (120W, 19V, Level 6) | 671-110003-100G |
| • Thermal solution (For 35W, Height: 37.3mm) | A71-103004-000G |
| • Thermal solution (For 65W, Height: 72.8mm) | 552-200049-000G |
| • LPC EXT-RS232 module (4 x RS232 ports) | 770-EXTRS1-000G |
| • LPC EXT-RS485 module (4 x RS485 ports) | 770-EXTRS1-100G |
| • DT122 Chassis | 761-DT1220-200G |