

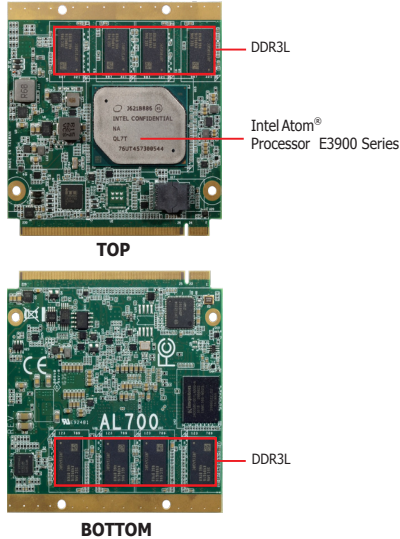


Intel Atom[®] Processor E3900 Series Qseven



AL700

Atom



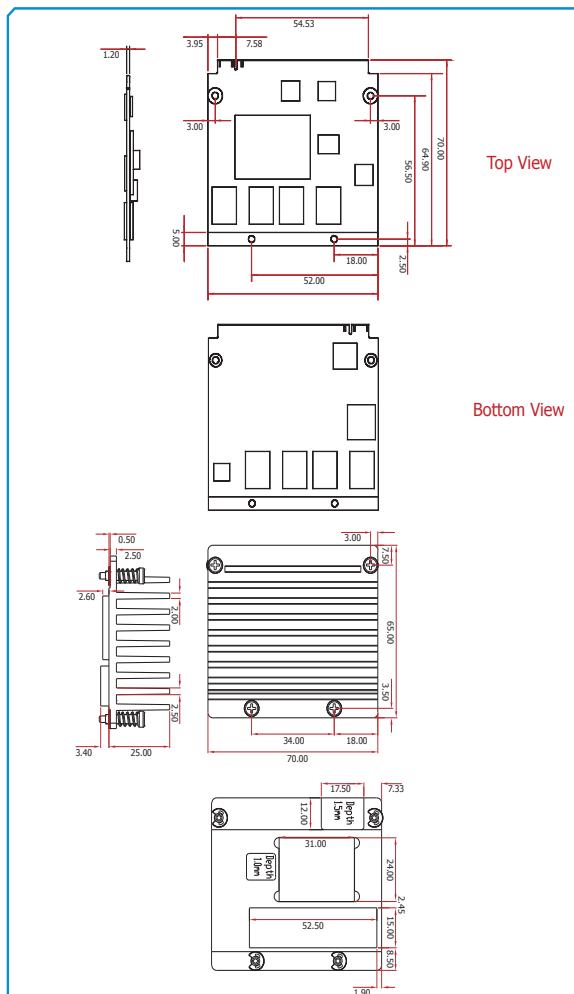
Features

- 4GB/8GB DDR3L Dual Channel Memory Down
- 1 DDI*, 1 LVDS*/(eDP + DDI)
- Supports triple displays: eDP+2DDI
- DP++ resolution supports up to 4096x2160 @ 60Hz
- Multiple expansions: 4 PCIe x1
- Rich I/O: 1 Intel GbE, 1 USB 3.0, 8 USB 2.0

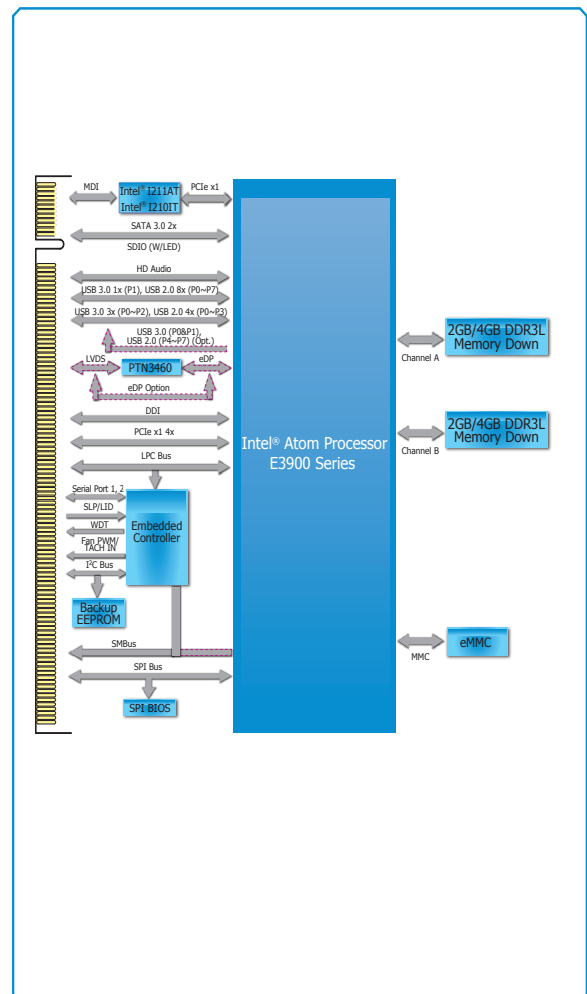
* Populated by default



Mechanical Drawing



Block Diagram



Intel Atom[®] Processor E3900 Series Qseven



AL700

Specifications

SYSTEM	Processor	Intel Atom [®] Processor E3900 Series, BGA 1296 Intel Atom [®] x7-E3950 Processor, Quad Core, 2M Cache, 1.6GHz (2.0GHz), 12W Intel Atom [®] x5-E3940 Processor, Quad Core, 2M Cache, 1.6GHz (1.8GHz), 9.5W Intel Atom [®] x5-E3930 Processor, Dual Core, 2M Cache, 1.3GHz (1.8GHz), 6.5W Intel [®] Pentium [®] Processor N4200, Quad Core, 2M Cache, 1.1GHz (2.5GHz), 6W Intel [®] Celeron [®] Processor N3350, Dual Core, 2M Cache, 1.1GHz (2.4GHz), 6W	
	Memory	4GB/8GB DDR3L Memory Down Dual Channel DDR3L 1600MHz	
	BIOS	AMI SPI 128Mbit (supports UEFI boot only)	
GRAPHICS	Controller	Intel [®] HD Graphics Gen9LP Series	
	Feature	OpenGL 5.0, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC HW Encode: AVC/H.264, JPEG/MJPEG, HEVC/H.265, VP8, VP9, MVC	
	Display	1 x DDI (HDMI/DVI/DP++) LVDS: NXP PTN3460, 24-bit, dual channel, resolution up to 1920x1200 @ 60Hz 1 x LVDS/(eDP+DDI) (DDI available upon request) HDMI: resolution up to 3840x2160 @ 30 Hz DP++: resolution up to 4096x2160@60Hz eDP: resolution up to 3840x2160 @ 60Hz	
	Dual/Triple Display	LVDS + DDI (Dual) eDP + DDI (Dual) eDP+2DDI (Triple) (available upon request)	
EXPANSION	Interface	4 x PCIe x1 (Gen 2) 1 x SDIO (with LED) 1 x LPC 1 x I ² C 1 x SMBus 1 x SPI 1 x UART (TX/RX)	
AUDIO	Interface	HD Audio	
ETHERNET	Controller	1 x Intel [®] I211AT (10/100/1000Mbps) (0~60°C) 1 x Intel [®] I210IT (10/100/1000Mbps) (-40 to 85°C)	
I/O	USB	1 x USB 3.0 + 8 x USB 2.0 3 x USB 3.0 + 4 x USB 2.0 (option)	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
	eMMC	Supports up to 32GB eMMC eMMC 5.0, BGA-153 Ball 8~32G(MLC mode)	
	GPIO	1 x 4-bit GPIO	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	FTPM	Enables or Disables the BIOS support for the security device	
POWER	Type	5V, 5VSB, VCC_RTC	
	Consumption	Typical: E3940: 12V @ 0.53A (6.36W) Max.: E3940: 12V @ 1.78A (21.36W)	
OS SUPPORT (UEFI ONLY)		Windows 10 IoT Enterprise 64-bit Ubuntu 15.10 (Intel graphic driver available)	
ENVIRONMENT	Temperature	Operating: 0 to 60°C Storage: -40 to 85°C	
	Humidity	Operating: 5 to 90% RH Storage: 5 to 90% RH	
	MTBF	1,020,531 hrs @ 25°C; 583,481 hrs @ 45°C; 364,855 hrs @ 60°C Calculation model: Telcordia Issue 2 Environment: GB, GC – Ground Benign, Controlled	
MECHANICAL	Dimensions	Qseven form factor 70mm (2.76") x 70mm (2.76")	
	Compliance	Qseven specification revision 2.1	
CERTIFICATIONS		CE, FCC Class B, RoHS	

Ordering Information

Model Name	P/N	Processor	Memory	eMMC	LVDS/eDP	GbE	USB 3.0	USB 2.0	Power	Thermal	Temp.
AL700-T40-E40	770-AL7001-500G	x5-E3940	4 GB	N/A	LVDS	1	1	8	ATX/AT	Fanless	-40 to 85°C
AL700-T40-E30	770-AL7001-600G	x5-E3930	4 GB	N/A	LVDS	1	1	8	ATX/AT	Fanless	-40 to 85°C
AL700-B40-E50	770-AL7001-100G	x7-E3950	4 GB	N/A	LVDS	1	1	8	ATX/AT	Fanless	0 to 60°C

Note: N4200 and N3350 are supported upon request with MOQ requirement.

Packing List

• 1 AL700 board
• 1 DVD
• 1 Heat sink: TBD
• 1 QR Reference

Optional Items

• Qseven Carrier Board Q7X-151: 770-Q7X153-000G
• Heat spreader: TBD
• Bracket: A31-028001-200G
• Bulk Box: TBD

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