



PRELIMINARY



DESCRIPTION

The ADL120S is a high-performance, compact 120mm x 120mm SBC based on 6th Generation Intel Core and Celeron processors. It is full-featured with robust I/O including USB 3.0, LAN, M.2 PCIe/SATA and a wide operating temperature range (-40C to 85C) and high-resolution DisplayPort outputs. Eight PCIe X1 expansion lanes allow for customization for any application-specific environment.

This makes it ideal for a variety of system-critical industrial applications where these high-performance features are an absolute necessity, but no less critical are less tangible features like high MTBF, long-life availability, hardware and firmware revision control, obsolescence management, technical, engineering and design support.

Custom System Solutions...

ADL Embedded Solutions, Inc. is expert at collaborating with customers to create custom system solutions built on our strong portfolio of embedded computing products and engineering and design expertise.

Contact us at www.adl-usa.com or sales@adl-usa.com.

APPLICATIONS

- Secure Networking, i.e. Secure Routing, Traffic Monitoring and Gateways
- Cyber Security Edge Devices for ICS and SCADA threat security.
- Unmanned, and Drone Payload Computing
- Industrial IoT Gateways and Controllers
- Mobile Telephony
- Traffic Engineering
- Transportation
- Wind Turbine Datalogging and Collision Avoidance
- Oil and Gas IPC
- Unmanned Autonomous Systems

FEATURES

- **Compact** 120mm x 120mm Footprint.
- 6th Generation Intel® Core™ and Celeron Processors (Formerly Codenamed Skylake)
- Intel® Q170 Chipset
- Long-term Available Intel Embedded Processors
- Up to 32GB DDR4
- 4x USB 3.0
- 4x Gbit/s LAN
- 2x M.2 (Key B) 2280 PCIe/SATA with USB 3.0
- **8x Stackable Expansion PCIe** lanes with up to 4x SATA and/or 4x USB3.0
- 2x DisplayPort Outputs
- Operating Temperature = -20-70C Standard; -40C to 85C Option
- Windows and Linux Compatible

ORDERING INFORMATION

ITEM CODE	PART #	DESCRIPTION
CPU Board		
ADL120S-6700TE		Intel® Core™ i7-6700TE 2.4 GHz 4C/8T, 8MB;
ADL120S-6100TE		Intel® Core™ i3-6100TE 2.7GHz 2C/4T, 4MB;
ADLQ120S-G3900TE		Intel® Celeron G3900TE, 2.3 GHz, 2C/2T, 2MB
DDR4 Memory		
DDR4-2133-8GB	997610	DDR4-2133 MHz 8GB Standard Temperature
DDR4-2133-16GB	997611	DDR4-2133 MHz 16GB Standard Temperature
DDR4-2133-8GB-EX	997612	DDR4-2133 MHz 8GB Extended Temperature
DDR4-2133-16GB-EX	997614	DDR4-2133 MHz 16GB Extended Temperature
Options		
ADL-ET	290000	Extended Temperature Chamber Screening (-40C to 85C)
ADL-UNDERFILL	807707	CPU BGA Underfill for mechanical and thermal stress
ADL-COATING	807706	CPU Conformal Coating for High Humidity
ADL-U/C/B	807709	CPU Underfill, Coating, and Bonding of High-Mass Components.

*Data subject to change without notice.



TECHNICAL SPECIFICATIONS

FEATURE	FUNCTION	NOTES
CPU		
CPU	6th Generation Intel Core and Celeron Processors	Dual and Quad Core variants.
Socket	LGA1151	Includes mechanical retention plate.
Chipset		
Chipset	Intel Q170	
Memory		
Type	2x SODIMM260 1.2V DDR4	
Max. Memory	32 GB	
Graphic		
Controller	Intel HD Graphics Gen 9	
Windows API Support	Direct3D 12/11.3/11.2/11.1/10/9; /Direct2D; OpenGL 4.4; OpenCL 2.1/2.0/1.2; DirectX 12	
Video Codec	Gen 9 Hardware Accelerated Decode/Encode	
DisplayPort	DP 1.2; Resolution = 4096x2304 @ 60Hz	2 Output Ports
BIOS		
Manufacturer	AMI Aptio (UEFI)	128 Mbit SPI-Flash; fTPM 2.0 (firmware TPM)
Power Management APM/ACPI	ACPI	
BIOS-API	Functions: CPU and Board Temperature; Boot History; Watchdog, Board Voltages; GPIO, Fan Speed Monitoring	Requires Linux or Windows drivers. Linux Kernel 3.0+ required.
I/O		
LAN1	10/100/1000 Intel i219 Phy	WOL and PXE Boot
LAN2-4	10/100/1000 Intel i210	
USB 3.0	4x	Backward Compatible to USB 2.0
DisplayPort	DP 1.2; Resolution = 4096x2304 @ 60Hz	2 Output Ports plus 1x Expansion
Expansion and Storage		
M.2 (Key B) 2280	2x M.2 (Key B) 2280 PCIe/SATA with USB 3.0	
Stackable Expansion Interfaces	8x PCIe Lanes Multiplexed with up to 4x SATA and/or up to 4x USB 3.0; 1x DisplayPort; PSON, PGOOD, PWRBTN; Custom Power	Custom expansion board services available.
Power		
Input Power	20-30VDC	Optional 12-24V; 20-36V
Input Protection	Galvanically Isolated, Over/Under Voltage Protection; Reverse Voltage Protection	
RTC Battery	CR2032 Circular Compatible	

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