



## DESCRIPTION

The ADLD25PC features the Intel Atom D525 processor which is designed for a two-chip platform as opposed to the traditional three-chip platforms requiring a CPU, GMCH and ICH. The Atom D525 processor accomplishes this by locally integrating the graphics and memory controller functions of a traditional GMCH. The processor interfaces to the ICH9M-E, which is also used on the ADLGS45PC and provides similar PCI/104-Express I/O bandwidth necessary to enable performance-based rugged, portable and thermally constrained applications. The D525 have an Intel rated Thermal Design Power (TDP) maximum of 10 to 13 Watts; and an Intel idle TDP of 4 to 4.8 Watts. TDP refers to how much heat annotated in Watts a thermal solution must be able to dissipate while keeping the processor below its maximum die temperature.

The ADLD25PC is ideal for rugged and mobile applications where power consumption is critical. These jobs include deeply embedded enclosures for industrial applications, as well as rugged portable applications such as transceivers for tactical communication, GIS mapping, night vision

## APPLICATIONS

- Transportation and railway
- GIS mapping
- Night vision
- Embedded enclosures for industrial applications
- Transceivers for tactical communication

## FEATURES

- Intel Atom Dual Core Processor D525, 1.80GHz
- Up to 4GB DDR3-800 DRAM SoDIMM204
- Type 2 Bottom-Stacking PCI/104 Express – 4 x1 Lanes
- 2x SATA 300 Ports
- 1x 10/100/1000Mbit Ethernet LAN Port
- 4x COM Ports - 2x RS232 Ports, 2x RS232/422/485 Ports
- 8x USB2.0 Ports
- Onboard VGA and LVDS Ports
- Hardware Monitor
- Watchdog Timer
- Optional PCIe Mini Socket
- 7.1 HD Audio
- 16bit GPIO Port
- Windows 7, Windows 8, Windows 10, Linux Compatible
- Discrete 16bit GPIO Port
- 3.6" x 3.8" (90mm x 96mm) PCI/104-Express v1.0a Form Factor
- Operating Range -25° to +70° C (-40° to +85° C available - call sales for details)
- Active and passive thermal solutions available - call for information

applications, railway and other applications that often use battery-type power sources.

In addition to the wide range of rugged, extended temperature or harsh environment applications in which the ADLD25PC can excel, it also supports a healthy set of features. The ADLD25PC has a discrete 16-bit digital I/O port as well as a separate LPT port. The ADLD25PC also has four COM ports. While two of the ports support RS232, the other two are configurable to RS232 or 4-wire RS422/485. 2x SATA with RAID support, 8x USB2.0 and bottom-stacking PCI express 4 x1 lanes are just a few of the available features. The ADLD25PC has an option for the PCIe Mini Socket to be added for Mini PCIe expandability, (i.e. Wi-Fi , etc).

### ADLSST System Sensor Technology Utility

The ADLSST System Sensor Technology v2.0 utility brings to the Linux environment the same type of CPU health monitor functions that have previously been readily available only in the Windows environment. Click [here](#) to download the drivers.

\*Data subject to change without notice.



## TECHNICAL SPECIFICATIONS - ADLD25PC

FEATURE	FUNCTION	REMARKS	OPTIONS
<b>CPU</b>			
CPU Classes	Intel Atom D525		D525 - Dual Core
CPU Option / Performance (GHz) / Intel Smart Cache	Atom D525 / 1.8GHz / 1MB		D425 option available. Please <a href="#">discuss</a> your requirements with your sales engineer.
Max No. of Cores	2	Both processor options support Hyperthreading	
Soldered (or Socket Name)	Soldered		
FSB	N/A	FSB only applicable with separate GMCH	
<b>Chipset</b>			
North Bridge (GMCH)	Dx25	GMCH functions incorporated into Dx25	
South Bridge (ICH)	Intel ICH9M-E		
Super IO1	SMSC SCH3114		
Hardware Monitoring	Super IO		
<b>Memory</b>			
Type	SODIMM204-1,5V / DDR3		
Size max (MB)	4096MB		
Speed max	DDR3 800 MHz		
<b>Graphic</b>			
Controller	CPU integrated		
Video BIOS	Intel Extreme BIOS		
Memory	Max 8MB UMA / Max 256MB DVMT		
CRT	Yes		
CRT resolution	2048x1536		
DVI/HDMI/DisplayPort	N/A		
LCD LVDS 18/24/36/48	18 Bit supported		
LCD resolution	1600 x 1200 DVI, HDMI		
<b>BIOS</b>			
Manufacturer	Solomon Award		
BIOS Chip	SPI-Flash		
Power Management APM/ACPI	APM/ACPI		
Speedstep/AMT	Speedstep supported		
Powerstates S0/S1/S3/S4/S5	S0/S1/S4/S5		
<b>Audio</b>			
Controller and Codec	Dx25 / Realtek ALC889 (HDA)		
Support for 2/6/8 channel (2.0/5.1/7.1)	2/6/8 channel		
Analog In Line/CD/AUX/Mic1/Mic2/PCBeep	Line-In/Mic1/Mic2/PCBeep		
Analog Out Line/MonoOut	Analog Line-Out		
Digital In/Out	S/PDIF In/Out		

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## TECHNICAL SPECIFICATIONS - ADLD25PC

FEATURE	FUNCTION	REMARKS	OPTIONS
<b>LAN</b>			
LAN1 Controller	Intel ICH9M-E / 567 Phy	9KB Jumbo Frame Support	
LAN1 10/100/1000	10/100/1000 Mbit		
LAN1 Diskless Boot option RPL/PXE/WOL	RPL/PXE/WOL		
LAN2 Controller	None	Same features as LAN1	
<b>Buses</b>			
PCI	PC/104-Plus V2.0		
PCIe x1 / x4 / x16	PCIe/104 V1.1 (PCIe v2.0)		
Specials/Options	mini-PCIe V1.2	Please call for compatibility	292530
<b>ATA/SATA Interfaces</b>			
ATA primary/secondary	None		
SATA Channels	2		
SATA RAID Levels 0/1/5/10	0/1		
1.5Gbs/3.0Gbs/6.0Gbs	1.5 Gb/s / 3.0 Gb/s / 6.0 Gb/s		
Onboard Compact Flash / Solid State Disk	None		
<b>USB Interfaces</b>			
Boot HD/FDD/CDROM/FD/ZIP	HD/FDD/CDROM/FD/ZIP		
USB-Channels	8		
Protocols - USB 1.1/2.0/Host/Device	1.1/2.0/Host		
<b>Serial / Parallel Interfaces / Interfaces</b>			
COM1&2: TTL/RS232/RS485/RS422	RS232		
COM3&4: TTL/RS232/RS485/RS422	RS232/422/485	BIOS Selectable	
RS232 max Speed	RS232 - 250kbps / 422/485 - 10Mbps		
LPT Uni/ECP/EPP/FDC	--		
Specials/Options	16-Bit GPIO	Discrete port	
PS/2 Keyboard/Mouse	Yes		
Floppy Interface FDC	Shared with LPT Port		
Watchdog	Yes		
<b>Power Supply</b>			
Supply Voltage	5V / 12V	Can be configured for +5V only	
Power Normal (typical)*	12.3 Watts		
UPS/Pb-Batt	None		
<b>Cooling</b>			
	passive / active		
Operating Temperature (ambient)	-25° to 70° C	ADL Thermal Solution recommended	
Extended / Storage Temperature	-40° to 85° C	Requires ADL-ET and Approved Thermal Solution	
<b>Dimensions</b>			
	3.6" x 3.8" (90mm x 96mm)		
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## ORDERING INFORMATION

ITEM CODE	PART #	DESCRIPTION
<b>PCI/104 Express Board</b>		
ADLD25PC-525	292500	Intel Atom Dual Core CPU D525, 1.80GHz
<b>Memory</b>		
DDR3-DRAM2048-1333	997506	DDR3-1333MHz 2GB Standard Temperature
DDR3-DRAM4096-1333	997507	DDR3-1333MHz 4GB Standard Temperature
DDR3-DRAM-2048-1333-EX	997516	DDR3-1333MHz 2GB Extended Temperature
DDR3-DRAM-4096-1333-EX	997517	DDR3-1333MHz 4GB Extended Temperature
Other speeds available - contact Sales for information		
<b>Options and Accessories</b>		
ADLD25PC-mPCIe	292530	Mini-PCIe option
ADL-ET	290000	Extended Temp Screen (-40° to +85° C)
ADLD25PC-CK	292520	Standard Cable kit for ADLD25PC
STANDOFF-MSS	293406	.6" (15.24mm), PC/104 M3, Precision Milled Stand-Offs
STANDOFF-1"M3	293436	1" (25.4mm), PC/104 M3, Precision Milled Stand-Offs
<b>Thermal Solutions</b>		
ADLD25PC-SP0600*	292513	0.600" Heat Spreader for ADLD25PC
ADLD25PC-SP1000*	292514	1.000" Heat Spreader for ADLD25PC
ADLD25PC-PASSIVELP	292512	Passive LP for ADLD25PC
*Stand-Off p/n's 293406 or 293436 are recommended for use with the above thermal solutions (qty of 4 each)		

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