



FEATURES

GENERAL

- ▶ All I/O and power through 69 pin Micro D-Sub Connector
- ▶ Optional sealed connector designed to meet IP-67

CPU ARCHITECTURE

- ▶ Intel® Atom® or AMD® Fusion® Processor
- ▶ Dimensions (W x H x D): 89 mm X 21 mm X 96 mm
- ▶ Weight .2 Kg (typical)
- ▶ Linux® or Microsoft Windows®
- ▶ Local or Network PXE boot

ENVIRONMENTAL

- ▶ Conduction Cooled
- ▶ Operating Case Temperature: -40° C to + 71° C

MILITARY SPECIFICATION

- ▶ MIL-STD-810G

APPLICATIONS

- ▶ Stand Alone Computer
- ▶ Smart-Display Processor
- ▶ Learning Center
- ▶ Man Wearable Computer
- ▶ Mobile Computer
- ▶ Airborne-Display Processor
- ▶ Payload Controller

NanoPAK™

Small Form Factor Computer

OVERVIEW

The small, light footprint and powerful performance of the NanoPAK™ small form factor computer make it an ideal solution for rugged commercial and military field applications. The NanoPAK integrates an Intel® Atom® or AMD® Fusion® processor with FLASH storage in a small, light footprint that optimizes size, weight, power, and cooling.

NanoPAK systems are complete, stand alone computer systems designed for unmanned vehicles, ground vehicles, man-wearable, shipboard, and other extreme environments, where space, weight, power and cost are critical. Leveraging Themis thermal and kinetic management design expertise, the NanoPAK computer boasts a hardened-aluminum conduction-cooled chassis that survives harsh environmental conditions. The NanoPAK computer supports field applications that include real time control, data recorders, small storage and communications systems, and mobile robotics. All standard PC interfaces are available. Additional interfaces include discretes.

Ideal for mission-critical applications, the NanoPAK's robust performance and cost-competitive price make it an attractive choice for military, commercial, and industrial use.

TECHNICAL SPECIFICATIONS

FEATURE	INTEL ATOM	AMD LOW POWER	AMD MEDIUM PERFORMANCE	AMD HIGH PERFORMANCE
Architecture	Intel Atom	AMD Fusion	AMD Fusion	AMD Fusion
Part Name	TSY-202NP	TSY-211NP	TSY-213NP	TSY-215NP
64 Bit Processor	N455	T40R	T40N	T56N
BIOS	AMI	Themis UEFI	Themis UEFI	Themis UEFI
Chipset	ICH8M	A55E	A55E	A55E
GPU	nVidia GMA 3150	AMD Radion 6250	AMD Radion 6290	AMD Radion 6320
Qty GPU Core	N/A	80	80	80
CPU Core @ Clock	1x Core @ 1.66 MHz	1x Core @ 1.0 GHz	2x Core @ 1.0 Ghz	2x Core @ 1.65 GHz
CPU Mezz RAM, Note 1	1 GB DDR3 @ 667 MHz (standard), 2 GB	2 GB LV DDR3 @ 1066 MHz (standard), 4 GB Max	2 GB LV DDR3 @ 1066 MHz (standard), 4 GB Max	2 GB DDR3 @ 1333 MHz (standard), 4 GB Max
CPU Mezz FLASH, Note 1	0, 1, 2 GB (standard)	0, 16, 32 (standard), 64 GB	0, 16, 32 (standard), 64 GB	0, 16, 32, 64 GB (standard)
Basecard FLASH, Note 1	0, 16, 32 (standard), 64 GB	0, 16, 32 (standard), 64 GB	0, 16, 32 (standard), 64 GB	0, 16, 32, 64 GB (standard)
Audio In, Note 1	Line (standard)/Mic In	Line (standard)/Mic In	Line (standard)/Mic In	Line (standard)/Mic In
Audio Out	Line Out	Line Out	Line Out	Line Out
GigE	1x	1x	1x	1x
VGA	1400 X 1050 @ 60 Sec (Max)	1920 X 1200 @ 60 Sec (Max)	1920 X 1200 @ 60 Sec (Max)	2048 X 1536 @ 60 Sec (Max)
SATA, Note 1	1x SATA with 2x GPI and 2x GPO or No SATA with 4x GPI and 4x GPO (standard)	1x SATA with 2x GPI and 2x GPO or No SATA with 4x GPI and 4x GPO (standard)	1x SATA with 2x GPI and 2x GPO or No SATA with 4x GPI and 4x GPO (standard)	1x SATA with 2x GPI and 2x GPO or No SATA with 4x GPI and 4x GPO (standard)
USB 2.0	2x USB 2.0 @ 500 mAmp 2x USB 2.0 @ 2 Amp (Surge)	2x USB 2.0 @ 500 mAmp 2x USB 2.0 @ 2 Amp (Surge)	2x USB 2.0 @ 500 mAmp 2x USB 2.0 @ 2 Amp (Surge)	2x USB 2.0 @ 500 mAmp 2x USB 2.0 @ 2 Amp (Surge)
RS-232	1x RS-232 TXD/RXD	1x RS-232 TXD/RXD	1x RS-232 TXD/RXD	1x RS-232 TXD/RXD
RS-232/422/485, Note 1	1x RS-232 (standard)/422/485	1x RS-232 (standard)/422/485	1x RS-232 (standard)/422/485	1x RS-232 (standard)/422/485
GPIO, Note 1	2x GPI and 2x GPO with 1x SATA or 4x GPI and 4x GPO without SATA (standard)	2x GPI and 2x GPO with 1x SATA or 4x GPI and 4x GPO without SATA (standard)	2x GPI and 2x GPO with 1x SATA or 4x GPI and 4x GPO without SATA (standard)	2x GPI and 2x GPO with 1x SATA or 4x GPI and 4x GPO without SATA (standard)
I ² C, Note 1	1x Factory Configuration on Basecard, User or VGA DDC (standard)	1x Factory Configuration, User or VGA DDC (standard)	1x Factory Configuration, User or VGA DDC (standard)	1x Factory Configuration, User or VGA DDC (standard)
Vbatt In, Note 1	9.0 VDC to 35 VDC (standard) 3.0 VDC (Optional) No Battery if using Vbatt In	9.0 VDC to 35 VDC (standard) 3.0 VDC (Optional) No Battery if using Vbatt In	9.0 VDC to 35 VDC (standard) 3.0 VDC (Optional) No Battery if using Vbatt In	9.0 VDC to 35 VDC (standard) 3.0 VDC (Optional) No Battery if using Vbatt In
Battery, Note 1	BR1225 / BR1225A Solder In -40C to +125C (Option) Socketed -30C to +80C (standard)	BR1225 / BR1225A Solder In -40C to +125C (Option) Socketed -30C to +80C (standard)	BR1225 / BR1225A Solder In -40C to +125C (Option) Socketed -30C to +80C (standard)	BR1225 / BR1225A Solder In -40C to +125C (Option) Socketed -30C to +80C (standard)
Processor Max TDP	6.5 Watts	5.5 Watts	9.0 Watts	18 Watts
Typical NanoPAK Power, Note 2	12 Watts	17 Watts	21 Watts	26 Watts

Note

1. Specify on order.
2. Configuration dependent. Consult Themis.



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