



Operating Guide

EPIA-P720 Mainboard

Table of Contents

Table of Contents	i
VIA EPIA-P720 Overview	2
Layout Diagrams	3
EPIA-P720 (top and bottom views)	3
VIA EPIA-P720 Specifications.....	4
VIA EPIA-P720 Processor SKU.....	5
VIA EPIA-P720 Dimensions & Mounting Holes	6
VIA EPIA-P720 Height Distribution.....	7
Power Consumption.....	8
Tested Configurations	8
Configuration 1	8
Configuration 2	8
Configuration 3	8
Configuration 4	8
Boot to Idle	9
Samsung Stress Tool	9
3DMark2003	9
PowerDVD 6.0.....	9
Power Specifications.....	10
VIA EPIA-P720 Microsoft and Linux Driver Support	11
Microsoft Driver Support.....	11
Linux Driver Support.....	11
Contact.....	12

VIA EPIA-P720 Overview

The VIA EPIA-P720 Pico-ITX mainboard is an ultra compact native x86 platform for a wide range of embedded system applications. The mainboard is based on the VIA VX855 All-in-One System Processor featuring the VIA Chrome9™ HCM DX9 IGP with video accelerators for rich digital media performance.

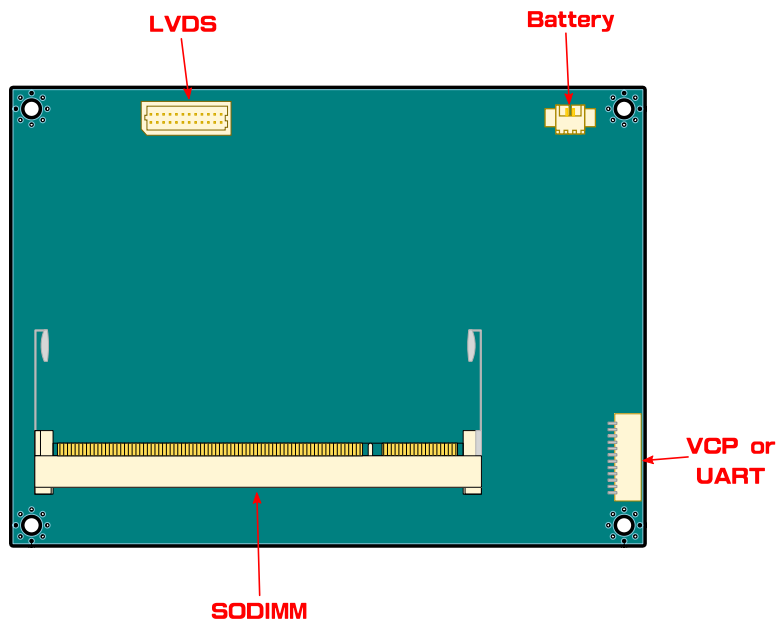
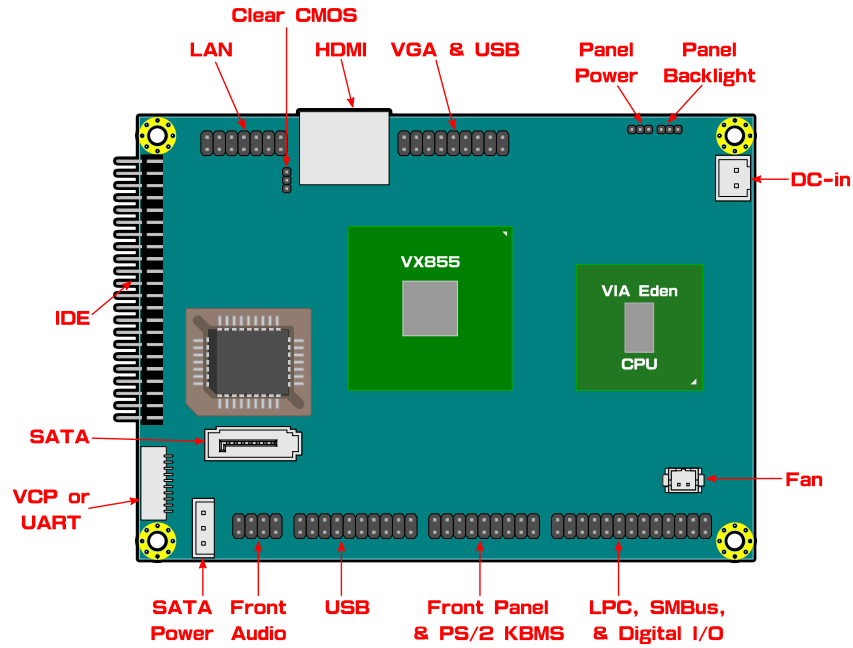
The VIA EPIA-P720 onboard VIA Eden ULV NanoBGA2 processor is a green, secure, and efficient processor with its included VIA Padlock Security Engine, VIA CoolStream™ Architecture, VIA StepAhead™ Technology Suite, and VIA TwinTurbo™ technology.

The VIA EPIA-P720 delivers the performance levels with its included sizeable support of up to 2 GB of 800 MHz DDR2 memory and native support for SATA 3Gb/s storage devices.

The VIA EPIA-P720 is fully compatible with Microsoft® and Linux operating systems.

Layout Diagrams

EPIA-P720 (TOP AND BOTTOM VIEWS)



VIA EPIA-P720 Specifications¹

Model Name	EPIA-P720-10E
Processor	VIA Eden™ ULV 1 GHz NanoBGA2 processor
Chipset	VIA VX855 All-in-One System Processor
System Memory	- 1 x DDR2 800/667 SODIMM socket - Up to 2 GB memory size
VGA	- VIA Chrome9™ HCM DX9 Integrated Graphics with MPEG-2/4 accelerators
Onboard Storage	- 1 x IDE 2.0 mm 44-pin connector - 1 x SATA 3Gb/s connector
Onboard LAN	- 1 x VIA VT6122 PCI Gigabit Ethernet Controller
Onboard Audio	- VIA VT1708B High Definition audio codec
Onboard I/O Connectors	- 1 x Gigabit LAN pin header - 1 x Audio pin connector for Line-out, Line-in, and MIC-in - 1 x Single-channel LVDS connector (5V/3V) - 1 x backlight control pin header - 1 x CPU fan connector - 1 x PS2 KBMS pin header - 1 x USB pin header - 1 x LPC pin connector - 1 x SMBus pin connector - 1 x DIO pin connector (4 GPI & 4 GPO) - 2 x UART port/VCP pin headers - 1 x Front panel pin header - 1 x +12V DC-in 2-pin connector
I/O Ports	- 1 x HDMI port - 1 x VGA port - 1 x GigaLAN port - 2 x USB ports
BIOS	- AMI BIOS - 4 Mbit LPC flash memory
Operating System	Windows XP/CE/XPe and Linux
System Monitoring & Management	- Wake-on LAN and keyboard - RTC Timer - WatchDog Timer - System power management, AC Power failure recovery
Operating Environment	Temperature: 0°C ~ 60°C Humidity: 0% ~ 95% (relative humidity; non-condensing)
Compliance	CE/FCC/BSMI/RoHS
Form Factor	- Pico-ITX - 10 cm x 7.2 cm

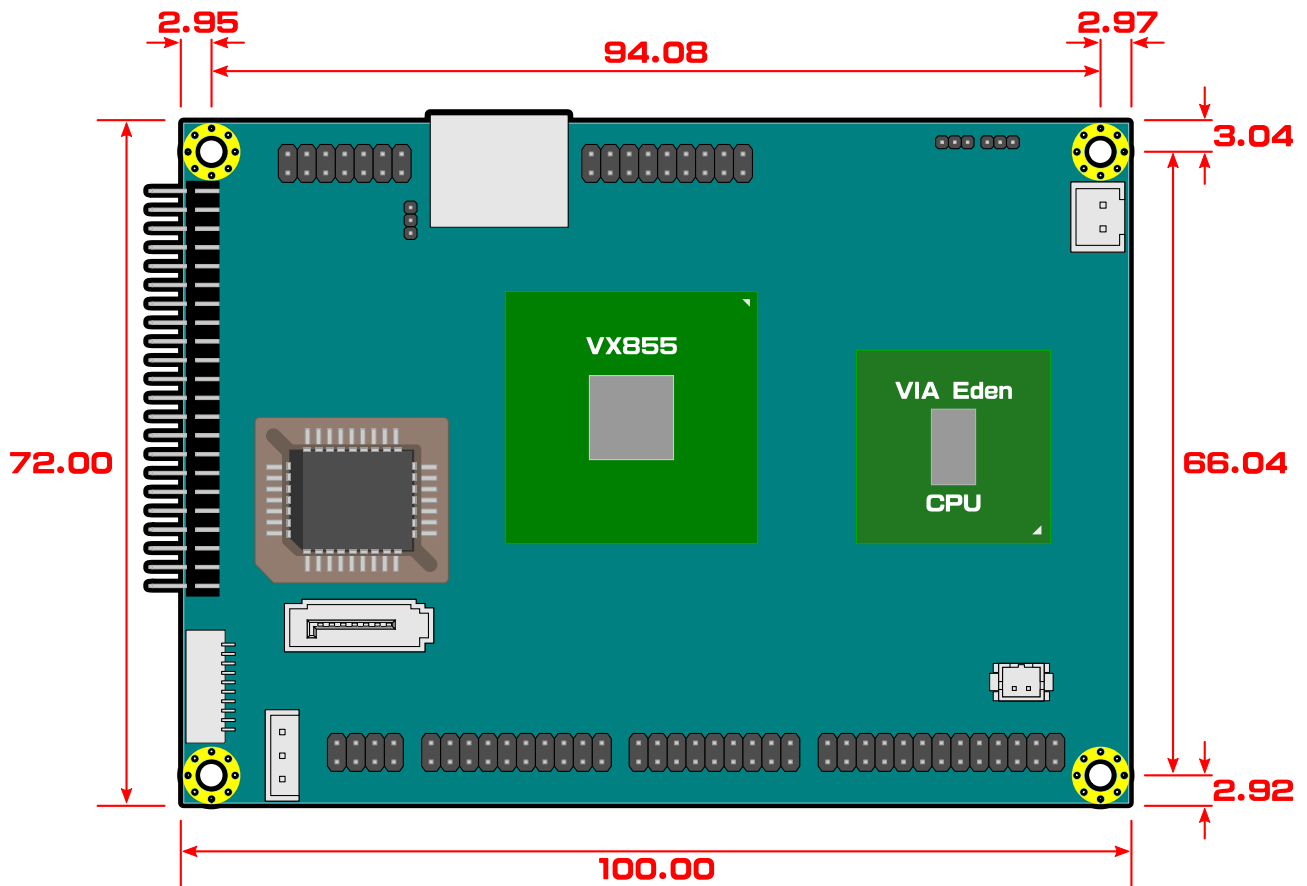
¹ Specifications subject to change without notice.

VIA EPIA-P720 Processor SKU

The VIA EPIA-P720 Pico-ITX mainboard is available in the following speed grades:

- 1.0 GHz VIA Eden™ ULV NanoBGA2 Processor

VIA EPIA-P720 Dimensions & Mounting Holes



VIA EPIA-P720 Height Distribution

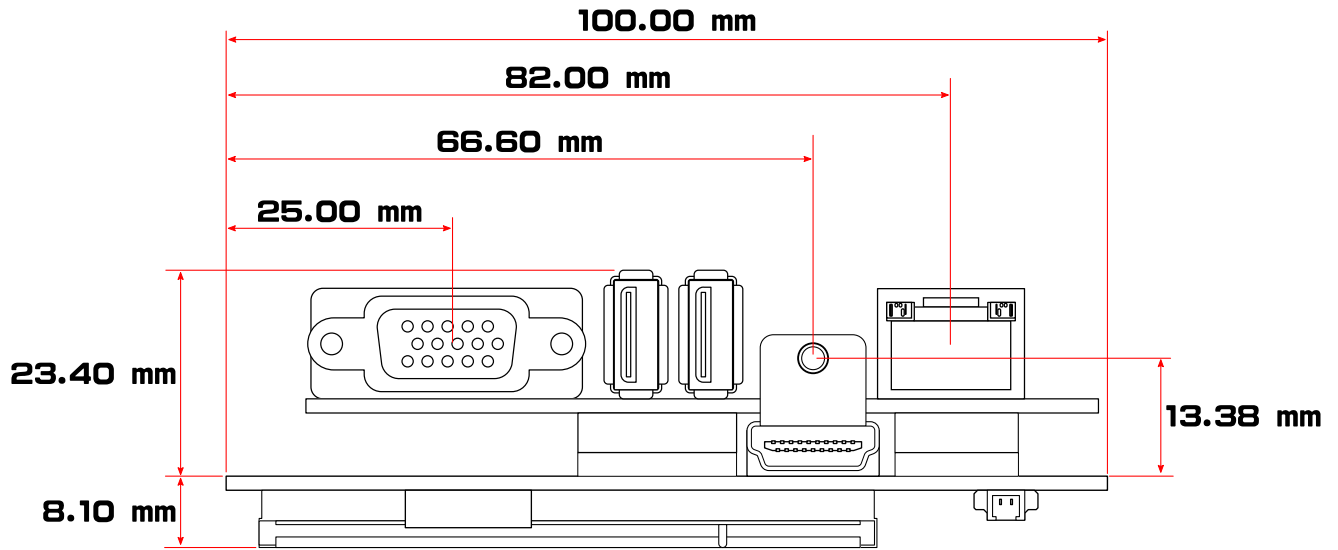


Figure 1: EPIA-P720 board shown with P720A module stacked on top

Power Consumption

Power consumption tests were performed on eight different configurations. The following tables show the mainboard's voltage, amp and wattage values while running common applications in the Windows XP environment.

TESTED CONFIGURATIONS

Configuration 1

- VIA Eden ULV 1 GHz NanoBGA2 Processor with 533 MHz FSB
- 2.5" Fujitsu 80 GB hard drive
- 1 GB Kingston DDR2 800 MHz

Configuration 2

- VIA Eden ULV 1 GHz NanoBGA2 Processor with 533 MHz FSB
- 2.5" Fujitsu 80 GB, hard drive
- 3.5" Seagate 80 GB hard drive
- 2 GB Hynix DDR2 800 MHz

Configuration 3

- VIA Eden ULV 1 GHz NanoBGA2 Processor with 533 MHz FSB
- 4 GB InnoDisk IDE DOM
- 1 GB Kingston DDR2 800 MHz

Configuration 4

- VIA Eden ULV 1 GHz NanoBGA2 Processor with 533 MHz FSB
- 4 GB InnoDisk IDE DOM
- 2 GB Hynix DDR2 800 MHz

BOOT TO IDLE

	Measured Voltage	Measure Amp	Watts
Configuration 1	11.997	0.89	10.677
Configuration 2	11.997	1.34	16.076
Configuration 3	11.997	0.66	7.918
Configuration 4	11.997	0.75	8.998

SAMSUNG STRESS TOOL

	Measured Voltage	Measure Amp	Watts
Configuration 1	11.997	1.00	11.997
Configuration 2	11.997	1.49	17.876
Configuration 3	11.997	0.76	9.118
Configuration 4	11.997	0.85	10.197

3DMARK2003

	Measured Voltage	Measure Amp	Watts
Configuration 1	11.997	1.00	11.997
Configuration 2	11.997	1.48	17.756
Configuration 3	11.997	0.78	9.358
Configuration 4	11.997	0.88	10.557

POWERDVD 6.0

	Measured Voltage	Measure Amp	Watts
Configuration 1	11.997	0.94	11.277
Configuration 2	11.997	1.41	16.916
Configuration 3	11.997	0.65	7.798
Configuration 4	11.997	0.73	8.758

Power Specifications

The VIA EPIA-P720 Pico-ITX mainboard utilizes a +12V DC-in power connector for providing power to the mainboard. The dimensions of the DC-in port are show in the figure below.

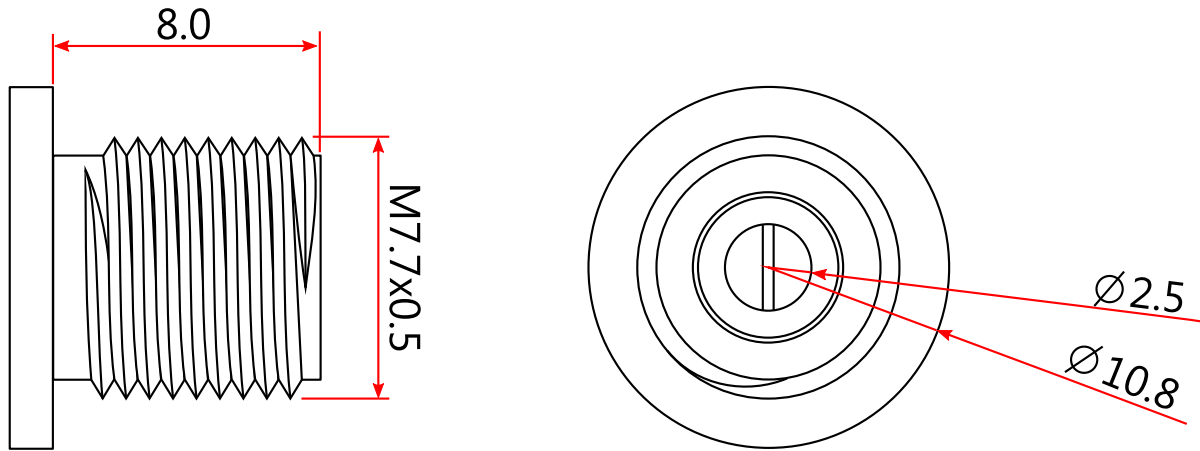


Figure 2: DC-in dimensions

VIA EPIA-P720 Microsoft and Linux Driver Support

MICROSOFT DRIVER SUPPORT

The VIA EPIA-P720 Pico-ITX mainboard is compatible with Microsoft operating systems. The latest Windows XP drivers can be downloaded from the VEPD website at www.viaembedded.com.

For embedded operating systems (Windows XP Embedded), the related drivers can be found in the VIA Arena website at www.viaarena.com.

LINUX DRIVER SUPPORT

The VIA EPIA-P720 Pico-ITX mainboard is highly compatible with many Linux distributions.

Support and drivers are provided through various methods including:

- Drivers provided by VIA
- Using a driver built into a distribution package
- Visiting VIA Arena website at www.viaarena.com for latest updates on a monthly basis
- Installing a third party driver (such as the ALSA driver from the Advanced Linux Sound Architecture project for integrated audio)

For OEM clients and system integrators developing a product for long term production, other code and resources may also be made available. You can submit a request either through the [Developers portal](#) at VIA Arena, or through your VEPD support contact. Alternatively, VIA can work further towards providing additional drivers to fit your specific needs.

Contact

For more information on the VIA EPIA-P720 Pico-ITX mainboard contact your sales representative or visit our website at www.viaembedded.com.

AMERICA

USA

940 Mission Court
Fremont, CA 94539
Tel: (510) 683 3300
Fax: (510) 687 4654
Email: vpsd_sales@viatech.com

EUROPE

GERMANY

Mottmann Strasse 12
53842 Troisdorf-Oberlar
Tel: 2241 397780
Fax: 2241 3977819
Email: sales@via-tech.de

ASIA

TAIWAN

1F, No. 531, Zhong-Zheng Road
XinDian, Taipei 23148
Tel: (02) 2218 5452
Fax: (02) 2218 5453
Email: mkt@via.com.tw

CHINA

6F, Dascom Tower
9 Shangdi East Road
Haidian District
Beijing, 100085
Tel: 10 6296 3088
Fax: 10 6297 2929
Email: vpsdbj@viatech.com.cn

