



EmbPower

NVIDIA GT730 1024MB DDR3

PCIe® ADD-IN BOARD

Datasheet

model number: 7301024F3S64AU





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1. Feature

Model Name	7301024F3S64AU
Graphics Processing Unit	
GPU	GeForce GT730 (GK208)
Process Technology	28 nm
Graphics Engine Operating Frequency (max)	902 MHz
Form Factor	ATX (145 x 111 mm)
Card Interface	PCI Express® 2.0 (x8)
CUDA Cores	384 CUDA
Floating Point Performance	692 GFLOPs
DirectX® capability	DirectX® 12 (Feature Level 11.0)
OpenGL	OpenGL™ 4.4
Video Decoder	NVDEC support
Memory	
Memory Clock	900 MHz/ 1.8 Gbps
DDR Type	DDR3
Memory Bus	64-bit
Memory Size	1024MB
Display Interface	
Display Output	HDMI x 4
Multi-Display	4
Board spec.	
External Power	No
Power Consumption	25W
Operating Temperature	0°C~50°C
Dimensions	145 x 111mm



2. Functional Overview

2.1. GPU Block diagram

Figure 1.1 shows a simplified block diagram of the GK208 GPUs.

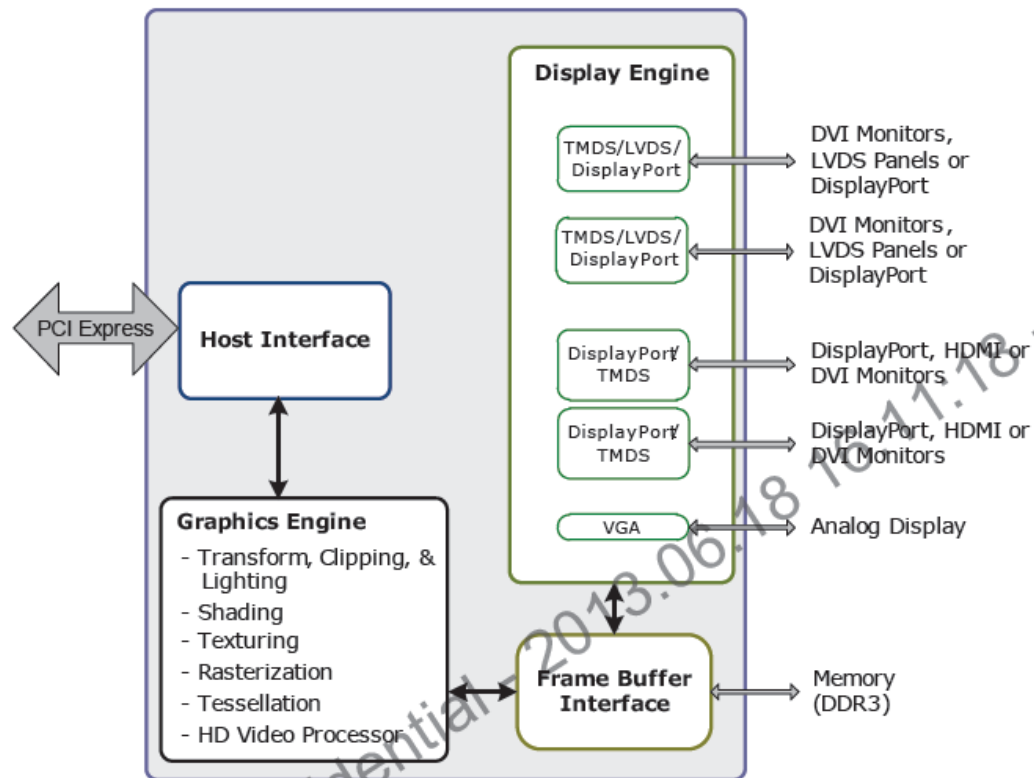


Figure 1.1 GK208 GPUs Simplified Block Diagram



2.2. KEY FEATURES

GPU

- ▶ Core clock: 902 MHz
- ▶ Voltage: 0.9 V – 1.188V \pm 2%
- ▶ Package size: 23mm x 23mm, 595-ball FCBGA

Board

- ▶ 4-layer printed circuit board (PCB)
- ▶ PCI Express 2.0, 8 lanes
- ▶ Physical dimensions: 145 x 111 mm
- ▶ Board power: 25 W

2.3. Memory

- ▶ Memory clock: 900 MHz
- ▶ Interface: 64 bit
- ▶ Local frame buffer 1 GB (4pieces 128M X 16 DDR3)

2.4. Features and Technologies

- ▶ DirectX® 12 compliant and Shader Model 5.0
- ▶ OpenGL 4.4
- ▶ NVIDIA® PhysXTM technology
- ▶ NVIDIA® CUDA technology

2.5. Display Support

- ▶ Support Multi Monitor
- ▶ HDMI: Support maximum resolution 4096x2160 (4K)@60Hz refresh rate
- ▶ Support HDCP

2.6. Digital Audio

- ▶ Supports for HD Audio over PCI Express
- ▶ Support for secure premium audio (e.g. 7.1 Audio)



- ▶ Data rates up to 192KHz
- ▶ Word sizes of 16-bit, 20bit, and 24-bit

2.7. Video

- ▶ NVIDIA Video Decoder (NVDEC) support

3. PIN Assignment and Description

3.1. HDMI Connector Pinout

Pin	Signal	Pin	Signal
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock-
3	TMDS Data 2-	13	No Connect
4	TMDS Data 1+	14	No Connect
5	TMDS Data 1 Shield	15	DDC Clock
6	TMDS Data 1-	16	DDC Data
7	TMDS Data 0+	17	Ground
8	TMDS Data 0 Shield	18	+5V Power
9	TMDS Data 0-	19	Hot Plug Detect
10	TMDS Clock+		



4. Power Specifications

Parameter	Value	Unit
Input Board Power (Estimated)		
PCI Express edge connector (12V) (estimated input power)	1.9	A
	22.51	W
PCI Express edge connector (3V3) (estimated input power)	1.79	A
	5.9	W
Total estimated input graphics power (estimated TGP)	27.96	W

5. Thermal Specifications

Parameter	Value	Unit
Fan inlet temperature (max.)	55	°C
GPU slowdown temperature (max.Tj)	97	°C
GPU shutdown temperature (max.)	102	°C
GPU junction temperature (estimated)	79	°C



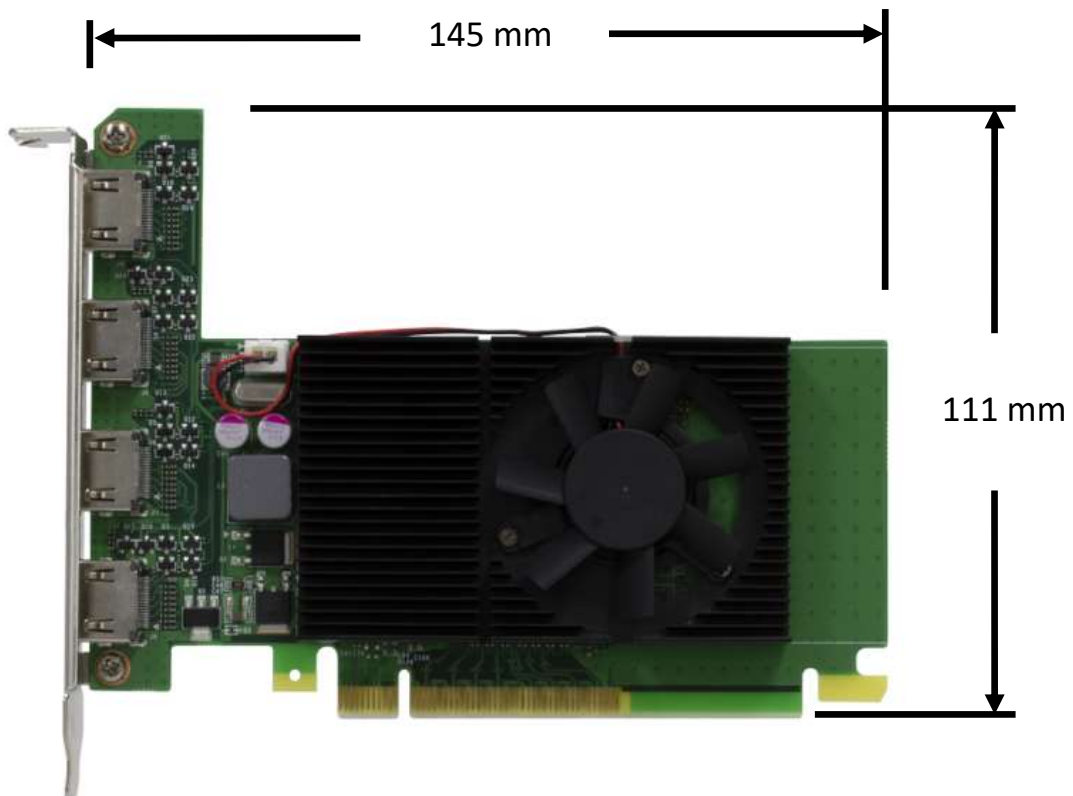
6. Output configuration and Board Dimension

6.1. Output Configuration



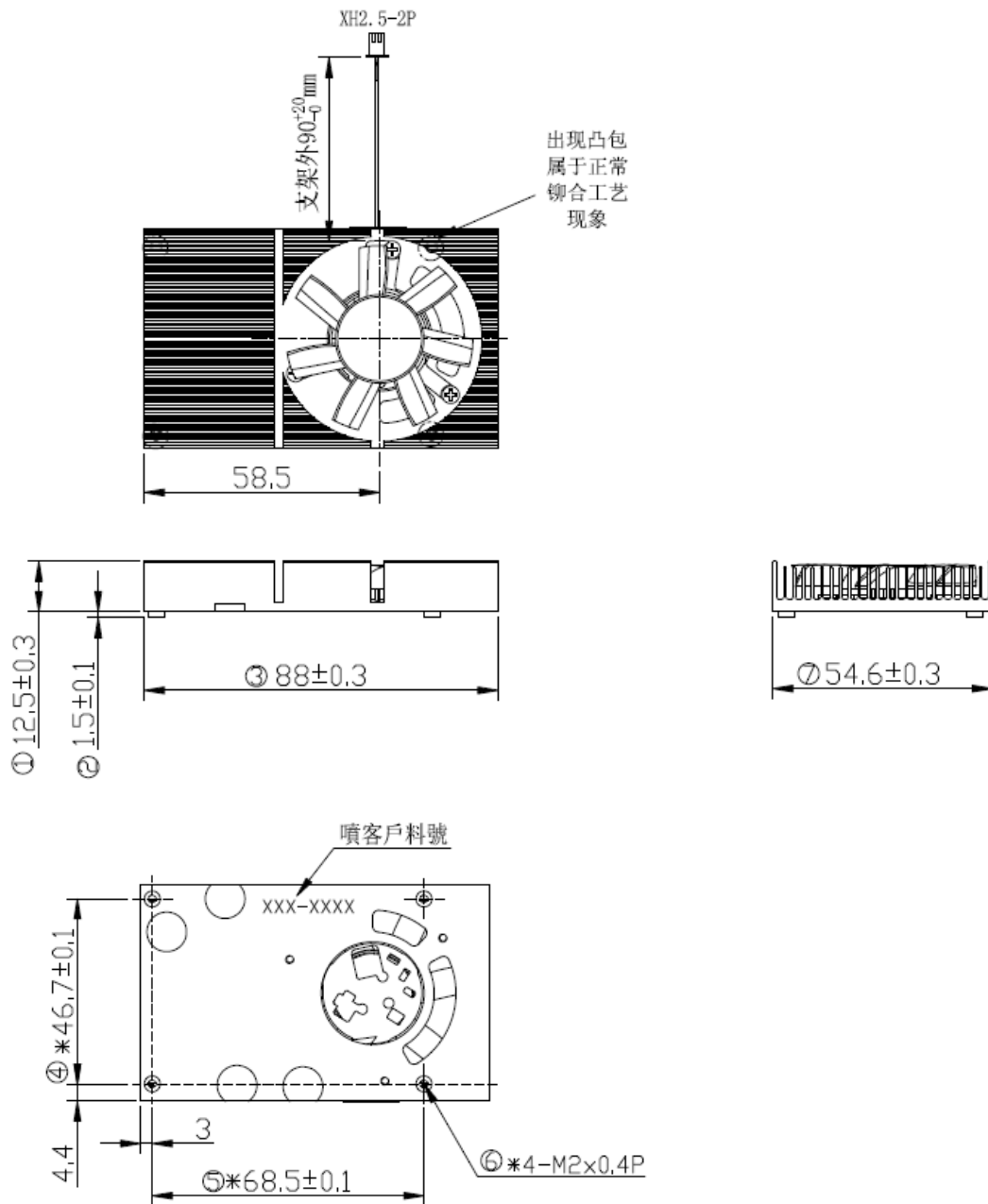
6.2. Board Dimension

(Unit : mm)





7. Thermal Mechanism





Change log or update history

Rev.	Data	History
1.0	2018/09/15	7301024F3S64AU datasheet