Express-GFC

Compact COM Express® Type 6 Module with AMD Fusion™ G-Series Processor and A50M Controller Hub



Features

- AMD Fusion™ G-Series Processor
- AMD A50M Controller Hub
- Up to 8GB Dual Channel DDR3 SDRAM at 1333MHz
- Two DDI (Digital Display Interface) for DP/HDMI/DVI
- Six free PCIe x1 lanes (optional PCIe x4)
- Four SATA 6 Gb/s, Gigabit Ethernet
- Two USB 3.0/2.0 and six USB 2.0

Specifications

Core System

CPU	**BGA Type**
	AMD G-T56N 1.65 GHz Dual Core (L2 cache 512KB x2, 18W)
	AMD G-T40N 1.0 GHz Dual Core (L2 cache 512KB x2, 9W)
	AMD G-T52R 1.5 GHz Single Core (L2 cache 512KB, 18W)
	AMD G-T44R 1.2 GHz Single Core (L2 cache 512KB, 9W)
	AMD G-T16R 615 MHz Single Core (L2 cache 512KB, 4.5W)
Memory	Single channel non-ECC 1066/1333 MHz DDR3 memory up to 8 GB in dual stacked SODIMM socket
Chipset	AMD A50M Control Hub
L2 Cache	1MB for G-T56N and G-T40N
	512KB for G-T52R and G-T44R
BIOS	AMI APTIO UEFI in 16 Mbit SPI flash
Hardware Monitor	Temperature and supply voltages only
Watchdog Timer	Programmable timer range to generate RESET
Expansion Busses	6 PCI Express x1: Lanes 0/1/2/3/4/5/6 are free, lane 0 is occupied by GbE; lane 1 is occupied by USB 3.0
	LPC bus, SMBus (system) , I²C (user)

Video

Integrated in Processor	UVD and 3D Engine integrated with G-series processor
Integrated Video	DirectX 11 and UVD3
Feature Support	DirectX Video Acceleration (DXVA) support for full AVC/VC1/MPEG2 Hardware Decode
	UVD3 includes support for DivX and Xvid via MPEG-4 Part 2 decoding, Blu-ray 3D via MVC and 120Hz stereo 3D support
VGA Interface	Analog VGA support by 300 MHz DAC
	Analog monitor support up to 2560x1600 resolution
LVDS Interface	Dual channel 24-bit LVDS
Embedded Display Port	eDP interface supports link-speeds of 1.62 Gbps and 2.7 Gbps on 1, 2 or 4 data lanes; eDP supports -0.5% SSC and non-SSC clock settings

Audio

Chipset	Integrated on AMD A50M
Audio Codec	On Express-BASE6 carrier (ALC888)

LAN

Chipset	Realtek RTL8111E
Interface	10/100/1000 Mbps Ethernet

Multi I/O and Storage

Chipset	Integrated on AMD A50M
USB	Two ports USB 3.0/2.0 and six ports USB 2.0
SATA	Four ports SATA 6 Gb/s with support for RAID 0,1,5,10

Super I/O

Connected to LPC bus on carrier if needed

TPM

Chipset	Infineon SLB9635TT1.2 (optional)
Type	TPM 1.2

Power Specifications

Input Power	Wide voltage input of 4.75 to 19V with or without Standby Voltage at 4.75 to 5.25V
Power States	Supports S0, S1, S3, S4, S5
Power Consumption	TBD
Smart Battery Support	Yes

Mechanical and Environmental

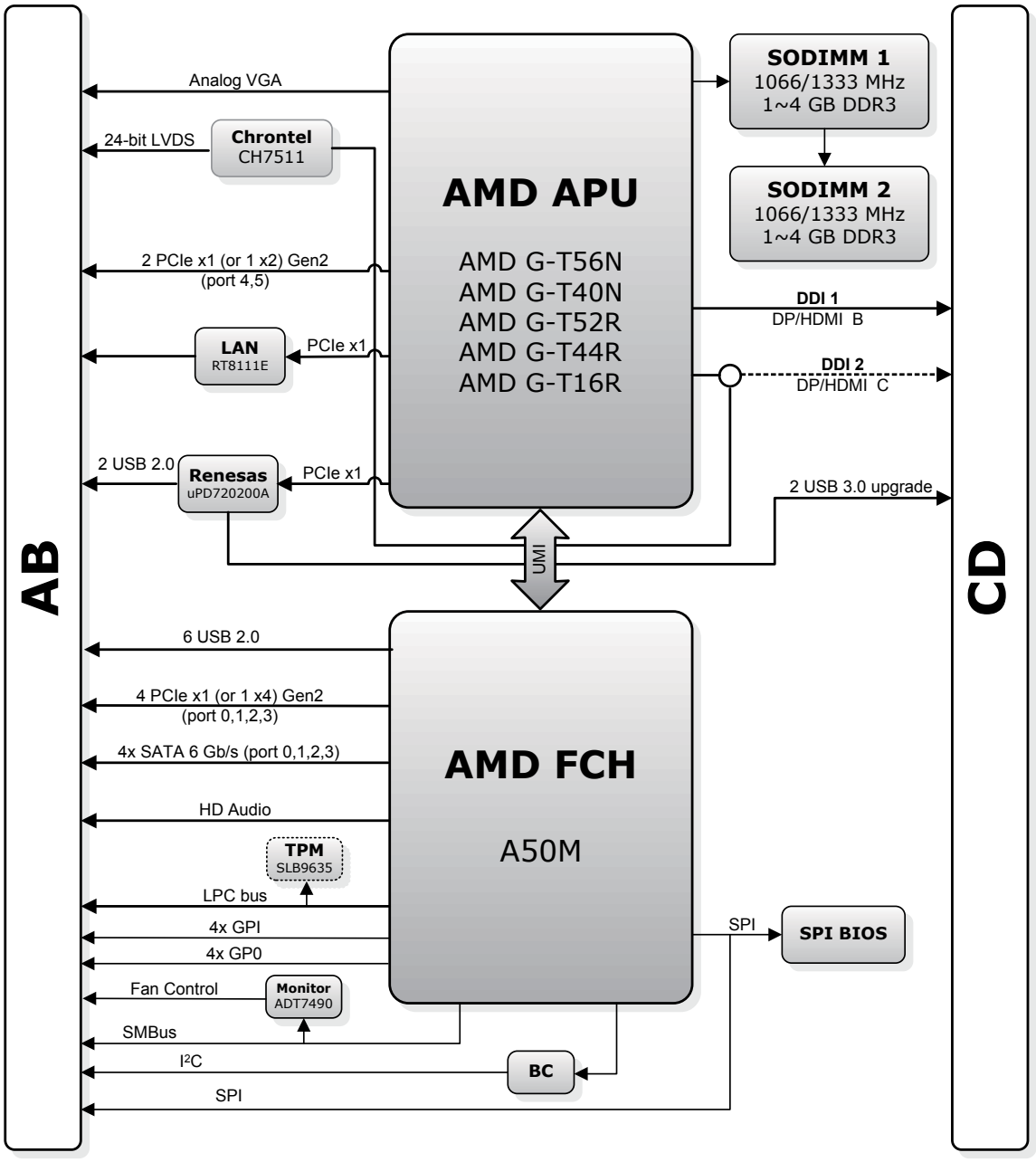
Operating Temp	0°C to 60°C
Storage Temp	-20°C to 80°C
Humidity	90% at 60°C
Shock	15G peak-to-peak, 11ms duration, non-operating
Vibration	Non-operating: 1.88 Grms, 5-500 Hz, each axis
	Operating: 0.5 Grms, 5-500 Hz, each axis
Compatibility	COM Express Type 6, COM.0 R2.0
	Compact form factor 95 mm x 95 mm
Certification	CE, FCC

Operating Systems

Standard Support	Windows XP(e) / Windows 7
	Linux
Extended Support (BSP)	Embedded XP/2009, WES7 support package
	Linux 3.2.20 BSP (with Xorg OpenGL setup instruction)
	VxWorks 6.x (on request)
	AIDI I²C Library for Windows and Linux

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Functional Diagram



Ordering Information

Modules

Model Number	Description/Configuration
Express-GFC-T56N	Compact COM Express Type 6 module with AMD Fusion G-T56N dual-core processor at 1.65 GHz and A50M Controller Hub
Express-GFC-T40N	Compact COM Express Type 6 module with AMD Fusion G-T40N dual-core processor at 1.0 GHz and A50M Controller Hub
Express-GFC-T52R	Compact COM Express Type 6 module with AMD Fusion G-T52R processor at 1.5 GHz and A50M Controller Hub
Express-GFC-T44R	Compact COM Express Type 6 module with AMD Fusion G-T44R processor at 1.2 GHz and A50M Controller Hub
Express-GFC-T16R	Compact COM Express Type 6 module with AMD Fusion G-T16R processor at 615 MHz and A50M Controller Hub

Accessories

Model Number	Description/Configuration
Passive Heatsinks	
THS-GFC-B	Low Profile Heatsink for Express-GFC with threaded standoffs
THSH-GFC-B	High Profile Heatsink for Express-GFC with threaded standoffs
Heat Spreaders	
HTS-GFC-B	Heatspreader for Express-GFC with threaded standoffs
Heatsink with Active Cooling	
THSF-GFC-B	High Performance Heatsink with Fan for Express-GFC with threaded standoffs

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