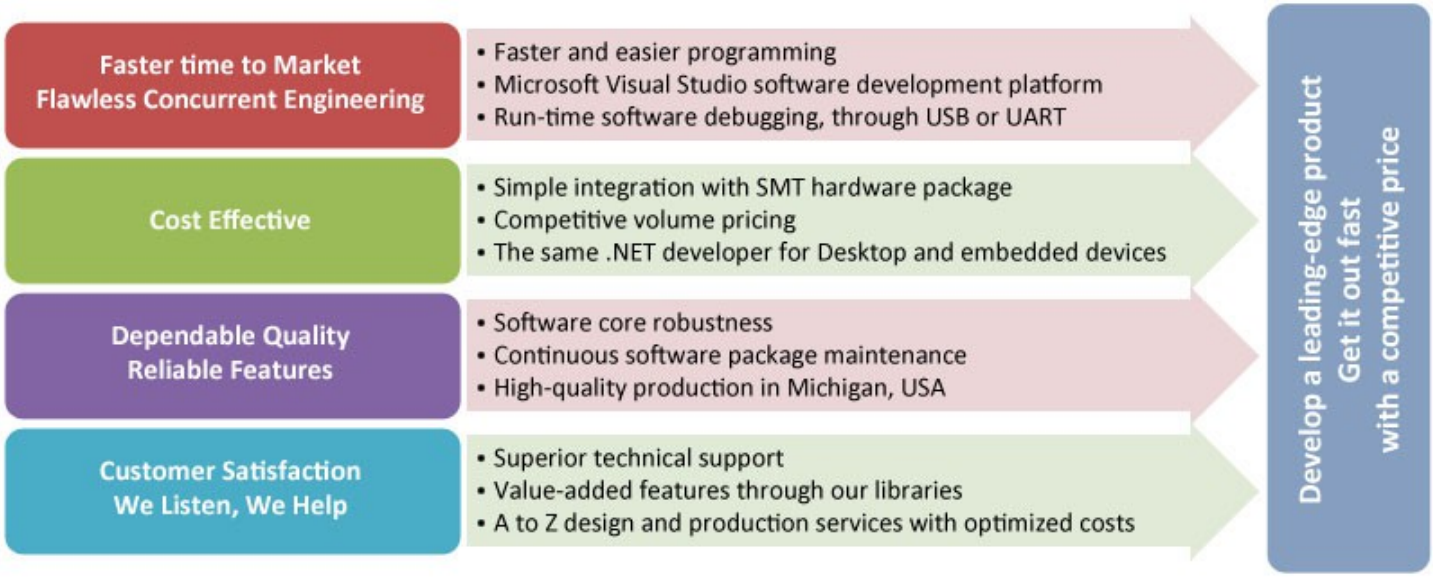
G400-D Module Specifications

The G400-D Module is a DIMM socket System on Module (SoM) that runs the .NET Micro Framework software platform, the most compact version of Microsoft .NET framework. The value of the G400-D Module is not only in the hardware capabilities such as the ARM 926EJ-S core processor, memory and peripherals, but also is in the integration between the hardware and the embedded software. This provides high level features such as a FAT file system, TCP/IP stack, Graphics and Threading to the developer through .NET APIs. Furthermore, the embedded software includes GHI Electronics' extensions to the core .NET Micro Framework. Extensions support important features such as WiFi, USB Host, SQLite, PPP, and In-Field Update. All are provided royalty-free with the G400-D System on Module.

Benefits



Key Features

Atmel AT91SAM9X35 400MHz MPU
128 MBytes DDR SDRAM
4 Mbytes of Serial Flash
Embedded LCD Controller
USB Host/Device with drivers
4-bit SD card interface

Plenty of essential peripherals such as GPIO, SPI, UART, I2C, I2S,CAN, ADC, DAC and PWM.
High level features such as file system, networking (Ethernet, WiFi), SQLite database, and Graphics.
Low profile SODIMM
Supports Visual C# and Visual Basic programming languages

G400-D Module Specifications

Applications

- Graphical Human Machine Interface
- Data Logger
- Hand held testers
- Internet of things applications
- Networked alarm systems
- Automation applications
- Controllers, Robotics

Specifications	
Package	SODIMM 200 PINS
Dimensions Length x Height x Thickness	67.49mm x 32.05mm x 4.84mm
Processor	400MHz 32-bit ARM 926EJ-S Core
Serial FLASH	4 MBytes
DDR2 SDRAM	128 MBytes
Color TFT Display Controller	Available, Multilayer
Graphics (font/controls) **Image Decoder**	Complete BMP, GIF, JPG
Native Networking Support	Ethernet/WiFi/PPP with SSL
Programmable IOs	102
PWM	4
Analog Input	8 (12 on G400-S)
UART (COM)	6
SPI	2
CAN	2
I2C	Available
One-wire	Supported on all IOs
USB Host	HID, Mass Storage, CDC, Webcam, Raw
USB Client	HID, Mass Storage, CDC, Raw
4bit SDHC/SD/MMC	Supported
Real Time Clock	Available
Piracy Protection	Available
In-Field Update	Available
Operating Temperature	-40° to +85°
Lead Free RoHS Compliant	Yes
	Yes
Load native C/assembly	Runtime Loadable Procedures
Power Consumption	150 mA
Sleep/Hibernate	See on-line specifications

Boot Control

LDR0	LDR1	Boot Access
X	HIGH	Firmware (user code)
HIGH	LOW	TinyBooter
LOW	LOW	SAM-BA[N3]

G400-D Module Specifications

Pins are not 5V Tolerant

01		Ground	51		Ground	101	PC31			151		Ground			
02		Ethernet TX -	52	PB1[N1]	ERX1	102	PA0	COM2 TX		152	PC0	LCD Blue 0			
03			53			103	PA1	COM2 RX		153	PC1	LCD Blue 1			
04		Ethernet TX +	54			104	PB12	AD1		154	PC2	LCD Blue 2			
05		Ground	55			105	PC18	PWM0		155	PC3	LCD Blue 3			
06		Ethernet RX -	56			106		VCC 3.3V		156	PC4	LCD Blue 4			
07			57	PD18		107	PA11[N3]	**SPI1 MISO**		157	PB13	AD2			
08		Ethernet RX +	58	PD17		108	PA12[N3]	**SPI1 MOSI**		158	PB14	AD3			
09			59	PD16		109	PA13[N3]	**SPI1 CLK**		159	PB15	AD4			
10		Ethernet Speed	60		VCC 3.3V	110	PB17	AD6		160		VCC 3.3V			
11		Ethernet Link	61	PD15		111	PA4	**LDR1**		161	PC5	LCD Green 0			
12			62	PD14		112	PC19	PWM1		162	PC6	LCD Green 1			
13		Ground	63	PD13		113		Ground		163	PC7	LCD Green 2			
14			64	PD12		114	PB16	AD5		164	PC8	LCD Green 3	COM5 TX		
15			65		Ground	115	PA30[N2]	I2C SDA		165	PC9	LCD Green 4	COM5 RX		
16			66	PD11		116	PA31[N2]	I2C SCL		166	PD1				
17			67	PD10		117	PA9[N4]	COM1 RX	CAN1 RX	167	PA8	COM4 RX			
18			68	PD9		118	PA10	COM1 TX	CAN1 TX	168	PC15	LCD Red 4			
19			69	PD8		119	PC24			169		Ground			
20		VCC 3.3V	70			120	PA2	COM2 RTS		170	PC10	LCD Green 5			
21			71			121	PA3	COM2 CTS		171	PC11	LCD Red 0			
22			72		VCC 3.3V	122	PD7			172	PC12	LCD Red 1			
23			73			123	PA15	SD D0		173	PC13	LCD Red 2			
24			74			124		VCC 3.3V		174	PC14	LCD Red 3			
25			75			125	PA16	SD CMD		175	PA23	SPI2 CLK			
26			76			126	PA17	SD CLK		176	PA21	SPI2 MISO			
27		Ground	77			127	PA18	SD D1		177		WKUP			
28			78			128	PA19	SD D2		178	PA22	SPI2 MOSI			
29			79		Ground	129	PA20	SD D3		179		SHDN			
30			80			130	PC21	PWM3		180		VCC 3.3V			
31			81			131		Ground		181		PWR_EN			
32		VCC 3.3V	82			132	PC26			182		USB3 HOST D+			
33			83	PA14[N1]		133	PC20	PWM2		183		VDDBU (VBAT)			
34			84			134	PA24	**LDR0**		184		USB3 HOST D-			
35	PB3[N1]	ERXDV	85	PC25[N1]	DO NOT USE.	135	PA25	**MODE(USB/COM1#)**		185		Ground			
36	PB4[N1]	ETXCK	86			136	PA26			186		Ground			
37	PB5[N1]	EMDIO	87			137	PA27			187		NRST			
38	PB6[N1]	EMDC	88		VCC 3.3V	138	PA28			188		USB2 HOST D+			
39	PB7[N1]	ETXEN	89			139	PA29			189		RTCK			
40		Ground	90			140	PC16	COM6 TX		190		USB2 HOST D-			
41		Ground	91	PB8	AD9	141	PC17	COM6 RX		191		TDO			
42		DIBN	92	PD2		142		VCC 3.3V		192		VCC 3.3V			
43		DIBP	93	PC23		143	PC27	LCD V Sync	COM3 RTS	193		NTRST			
44		BMS	94	PD0		144	PC28	LCD H Sync	COM3 CTS	194		USB1 CLIENT D+			
45		JTAGSEL	95		Ground	145	PC30	LCD Clock		195		TDI			
46		VCC 3.3V	96	PB18		146	PC29	LCD Data Enable		196		USB1 CLIENT D-			
47	PB2[N1]	ERXER	97	PB11	AD0	147	PD3			197		TCK			
48	PB9[N1]	ETX0	98	PA5	COM3 TX	CAN2 TX	148	PD4		198		Ground			
49	PB10[N1]	ETX1	99	PA6	COM3 RX	CAN2 RX	149	PD5		199		TMS			
50	PB0[N1]	ERX0	100	PC22		150	PD6			200	PA7	COM4 TX			

[N1] N/C, leave floating	[N2] Open drain ports	[N3] SPI Only. Pull PA11 low when reseting to enter SAM-BA mode; limit low state to 2 seconds.	[N4] set PA9 HIGH when entering SAM-BA

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