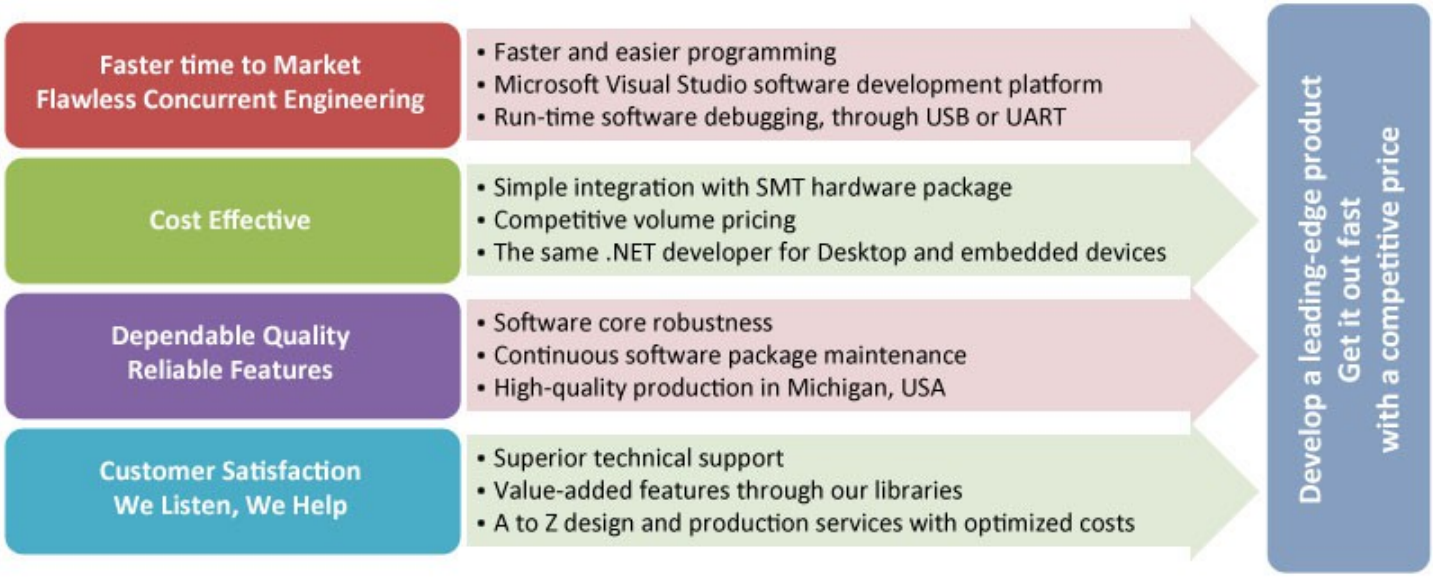
G400-S Module Specifications

The G400-S Module is a surface-mount 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-S 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-S 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-S 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	48.25mm x 33.05mm x 4.6 mm
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)	Complete
Image Decoder	BMP, GIF, JPG
Native Networking Support	Ethernet/WiFi/PPP with SSL
Programmable IOs	89
PWM	4
Analog Input	12
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	98 mA
Sleep/Hibernate	See on-line specifications

LDR0	LDR1	Boot Access
X	HIGH	Firmware (user code)
HIGH	LOW	TinyBooter
LOW	LOW	SAM-BA[N2]

G400-S Module Specifications

Pins are not 5V Tolerant

1	PD0			41	PB10	ETX1	AD11	81	PA23	SPI2 CLK	
2	PD4			42		VCC 3.3V		82	PA28		
3		DIBP		43		VBAT		83	PA31 [N1]	I2C SCL	
4	PA27			44	PB7	ETXEN	AD8	84		VCC 3.3V	
5	PA16	SD CMD		45	PB2	ERXER		85		TCK	
6	PA8	COM4 RX		46	PC0	LCD Blue 0		86		USB D+	
7	PA3	COM2 CTS		47	PC6	LCD Green 1		87		USB D-	
8	PA2	COM2 RTS		48		VDDIOM2 - 1.8V		88		USB H0+	
9	PC28	LCD H Sync	COM3 CTS	49	PC10	LCD Green 5		89		USB H0-	
10	PC23			50	PC3	LCD Blue 3		90		USB H1+	
11	PC5	LCD Green 0		51	PC15	LCD Red 4		91		USB H1-	
12	PC1	LCD Blue 1		52	PC18	PWM 0		92		TDI	
13		VDDIOM1 – 1.8V		53		VDDCORE1 - 1.0V		93		NRST	
14		SHDN		54	PC13	LCD Red 2		94		TMS	
15		JTAGSEL		55	PC31			95		BMS	
16		GND1		56		GND2		96		PWR_EN	
17	PB3	ERXDV		57	PC26			97		GND3	
18	PB1	ERX1		58	PC30	LCD Clock		98	PA13 [N2]	SPI1 SCK	
19		WKUP		59	PA12 [N2]	SPI1 MOSI		99	PA19	SD D2	
20	PB18			60	PB16	AD5		100	PA21	SPI2 MISO	
21	PB8	AD9		61	PB17	AD6		101	PA24	LDR0	
22	PB14	AD3		62	PB9	ETX0	AD10	102	PA25	MODE(USB/COM1#)	
23	PB12	AD1		63	PB4	ETXCK		103		VDDCORE2 - 1.0V	
24	PB6	EMDC	AD7	64	PC4	LCD Blue 4		104		TDO	
25	PB15	AD4		65	PC7	LCD Green 2		105		NTRST	
26	PB0	ERX0		66	PC8	LCD Green 3	COM5 TX	106	PA6	COM3 RX	CAN2 RX
27	PB5	EMDIO		67	PC14	LCD Red 3		107	PA17	SD CLK	
28	PC2	LCD Blue 2		68	PC16	COM6 TX		108	PA22	SPI2 MOSI	
29	PC9	LCD Green 4	COM5 RX	69	PC20	PWM2		109	PA26		
30	PC11	LCD Red 0		70	PC17	COM6 Rx		110	PA30 [N1]	I2C SDA	
31	PC12	LCD Red 1		71	PC27	LCD V Sync	COM3 RTS	111	PA29		
32	PC24			72	PC29	LCD Data Enable		112		RTCK	
33	PA0	COM2 TX		73	PA5	COM3 TX	CAN2 TX	113		DIBN	
34	PC21	PWM3		74	PA1	COM2 RX		114	PD2		
35	PC19	PWM1		75	PA11 [N2]	SPI1 MISO		115	PD1		
36	PC22			76	PA10	COM1 TX	CAN1 TX	116	PD7		
37	PA7	COM4 TX		77	PA9 [N3]	COM1 RX	CAN1 RX	117	PD3		
38	PA4	LDR1		78	PA15	SD D0		118	PD5		
39	PB11	AD0		79	PA18	SD D1		119	PD6		
40	PB13	AD2		80	PA20	SD D3		120		GND4	

N1 Open drain ports	**N2** Use as SPI Only. On reset, pull PA11 low to enter SAM-BA; do not hold low for more than 2 seconds.	**N3** PA9 must be HIGH to enter SAM-BA

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G400S-SM-480