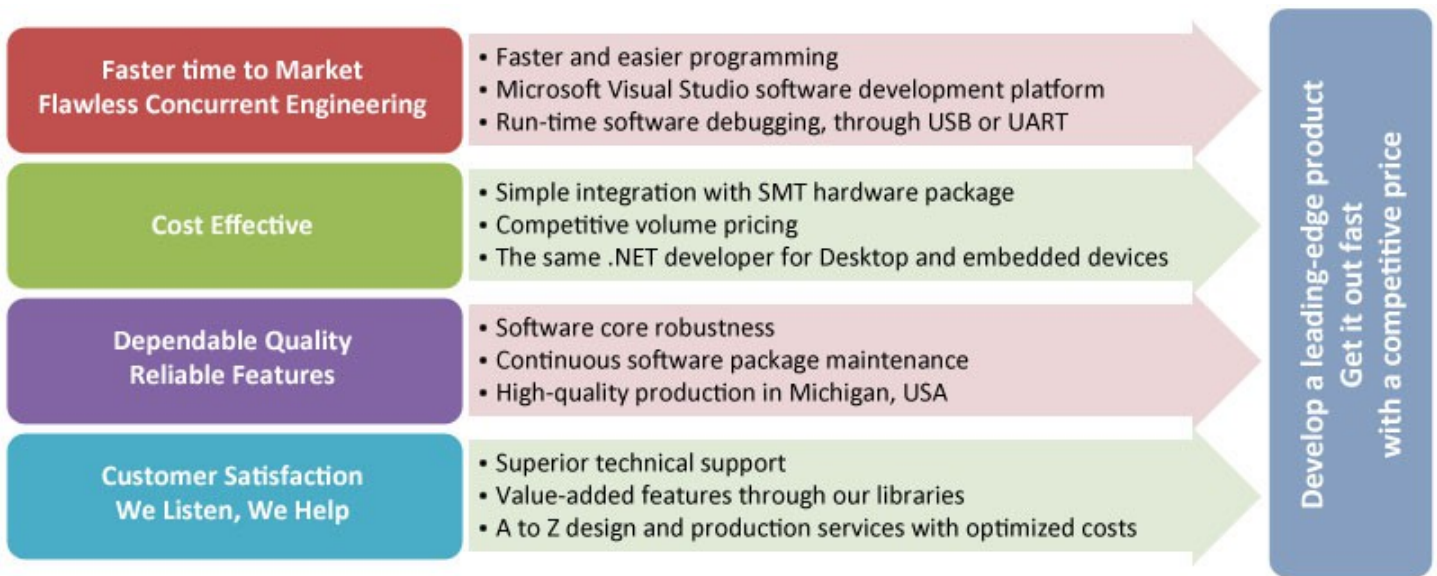


G400-S Module Specifications

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 |
| Load native C/assembly | Yes |
| Power Consumption | Runtime Loadable Procedures |
| Sleep/Hibernate | 98 mA |
| | 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 | 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 | 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 | 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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- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
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- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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