What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Active
Core Processor	ARM® Cortex®-M3
Core Size	32-Bit Single-Core
Speed	100MHz
Connectivity	CANbus, CSI, Ethernet, I²C, UART/USART
Peripherals	DMA, WDT
Number of I/O	96
Program Memory Size	-
Program Memory Type	ROMless
EEPROM Size	-
RAM Size	512K x 8
Voltage - Supply (Vcc/Vdd)	0.9V ~ 3.6V
Data Converters	-
Oscillator Type	Internal
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	324-BGA
Supplier Device Package	324-BGA (19x19)
Purchase URL	https://www.e-xfl.com/product-detail/renesas-electronics-america/upd60510bf1-hn4-m1-a

RENESAS

UPD60510BF1-HN4-M1-A

Product Spec

Star Product	-	12-bit A/D Converter (ch)	0
Price	-	Over 14-bit A/D Converter (ch)	0
Bit Size	32	Delta-Sigma A/D Converter	NO
Family	R-IN	8-bit D/A Converter (ch)	0
Series	R-IN32M3	10-bit D/A Converter (ch)	0
Group	R-IN32	12-bit D/A Converter (ch)	0
Program Memory (KB)	768	Over 14-bit D/A Converter (ch)	0
RAM (KB)	512	CAN (ch)	2
Data Flash (KB)	0	Ethernet	YES
Program Memory Type	ROMless	Ethernet Remarks	2ch
Cache Memory	NO	USB Host	-
Cache Memory Remarks	-	USB Peripheral	-
Pin Count	324	USB Ports (ch)	-
CPU	Cortex-M3	USB Hi-Speed Support	-
Max. Freq (MHz)	100	USB Endpoints	-
Sub-clock (32.768 kHz)	NO	USB Isochronous Transfer Support	-
On-chip Oscillator	YES	USB Remarks	-
On-chip Oscillator Freq. (MHz)	100	USB MCU/ USB ASSP	-
PLL	YES	Clocked Serial Interface (ch)	2
RTC	NO	SPI (ch)	0
Power-On Reset	-	UART (ch)	2
Low Voltage Detection	-	I2C (ch)	2
Memory Management Unit	-	LIN (ch)	0
Floating Point Unit	NO	IEBus (ch)	0
DMA	YES	Serial Interface Remarks	-
DMA Remarks	DMAC x 4 ch	LCD Segment Count	0
External Bus Expansion	NO	LCD Remarks	0
External Interrupt Pins	29	Display Function	NO

I/O Ports	96	Display Function Remarks	-
8-bit Timer (ch)	0	Operating Voltage Max (V)	1.1
16-bit Timer (ch)	0	Operating Voltage Min (V)	0.9
32-bit Timer (ch)	1	Power Supply	"VDD = 0.9 to 1.1 V, VDDIO = 3.0 to 3.6V"
Watchdog Timer (ch)	1	Operating Temperature Max (°C)	85
Other Timers	-	Operating Temperature Min (°C)	-40
PWM Output	0	Operating Temperature Remarks	-
3-phase PWM Output Function	NO	Remarks	"Industrial communication, include CC-Link IE Field slave IP"
8-bit A/D Converter (ch)	0	Production Status	Under Development
10-bit A/D Converter (ch)	0		

Order Information   <mark>Contact</mark>

Please inquire.

Package & Packing

Package	
Renesas code	PRBG0324FB-A
Previous code	P324F1-100-HN4-1
JEITA code	P-BGA324-19x19-1.00
Name	BGA
Terminal count	324
Terminal pitch (mm)	1
Dimensions (mm)	19x19
Mass (g)[TYP,]	1.28
Mounting height (mm)[MAX]	1.95
Terminal material - Base	Sn-Ag-Cu
Terminal material - Surface	-
Drawing Link	📄 p324f1-100-hn4
Mount pad	📄 fig0013e
Remarks	B-PBGA,PWB:0.53t

Packing		
Container	JEDEC tray	📄 H8027
Packing	JEDEC Tray Complete dry pack	📄 H8513