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	Obsolete
Core Processor	C166
Core Size	16-Bit
Speed	20MHz
Connectivity	EBI/EMI, SPI, UART/USART
Peripherals	POR, PWM, WDT
Number of I/O	63
Program Memory Size	-
Program Memory Type	ROMless
EEPROM Size	-
RAM Size	1K x 8
Voltage - Supply (Vcc/Vdd)	4.5V ~ 5.5V
Data Converters	-
Oscillator Type	External
Operating Temperature	-40°C ~ 85°C (TA)
Mounting Type	Surface Mount
Package / Case	80-QFP
Supplier Device Package	P-MQFP-80-1
Purchase URL	https://www.e-xfl.com/product-detail/infineon-technologies/c161klmhafxqma1

Edition 2001-01

Published by Infineon Technologies AG,
St.-Martin-Strasse 53,
D-81541 München, Germany

Attention please!

The information herein is given to describe certain components and shall not be considered as warranted characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Infineon Technologies is an approved CECC manufacturer.

Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office in Germany or our Infineon Technologies Representatives worldwide.

Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies Components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Revision History:	**2001-01**		V2.0
Previous Version:	03.97	(Preliminary)	
	09.96	(Advance Information)	

Page	Subjects (major changes since last revision)
All	Converted to Infineon layout
All	C161V removed
2	Ordering Codes and Cross-Reference replaced with Derivative Synopsis
5 - 8	Open drain functionality described for P2, P3, P6
8	Bidirectional reset introduced
19	Figure updated
28, 29	Revised description of Absolute Max. Ratings and Operating Conditions
32 - 56	Specifications for reduced supply voltage introduced
35	Reduced power consumption
36, 37	Clock Generation Modes added
38, 39	Description of External Clock Drive improved
41 - 56	Standard 25-MHz timing introduced (timing granularity 2 ns)

We Listen to Your Comments

Any information within this document that you feel is wrong, unclear or missing at all? Your feedback will help us to continuously improve the quality of this document. Please send your proposal (including a reference to this document) to:
mcdocu.comments@infineon.com

Table 2 Pin Definitions and Functions

Symbol	Pin Num	Input Outp.	Function
XTAL1	2	I	XTAL1: Input to the oscillator amplifier and input to the internal clock generator
XTAL2	3	O	XTAL2: Output of the oscillator amplifier circuit. To clock the device from an external source, drive XTAL1, while leaving XTAL2 unconnected. Minimum and maximum high/low and rise/fall times specified in the AC Characteristics must be observed.
P3		IO	Port 3 is a 12-bit bidirectional I/O port. It is bit-wise programmable for input or output via direction bits. For a pin configured as input, the output driver is put into high-impedance state. Port 3 outputs can be configured as push/pull or open drain drivers. The Port 3 pins serve for following alternate functions:
P3.2	5	I	CAPIN GPT2 Register CAPREL Capture Input *This alternate input is **only available in the C161O**.*
P3.3	6	O	T3OUT GPT1 Timer T3 Toggle Latch Output
P3.4	7	I	T3EUD GPT1 Timer T3 External Up/Down Control Input
P3.5	8	I	T4IN GPT1 Timer T4 Count/Gate/Reload/Capture Inp
P3.6	9	I	T3IN GPT1 Timer T3 Count/Gate Input
P3.7	10	I	T2IN GPT1 Timer T2 Count/Gate/Reload/Capture Inp
P3.8	11	I/O	MRST SSC Master-Receive/Slave-Transmit Inp./Outp.
P3.9	12	I/O	MTSR SSC Master-Transmit/Slave-Receive Outp./Inp.
P3.10	13	O	TxD0 ASC0 Clock/Data Output (Async./Sync.)
P3.11	14	I/O	RxD0 ASC0 Data Input (Async.) or Inp./Outp. (Sync.)
P3.12	15	O O	$\overline{\text{BHE}}$ External Memory High Byte Enable Signal, $\overline{\text{WRH}}$ External Memory High Byte Write Strobe
P3.13	16	I/O	SCLK SSC Master Clock Output / Slave Clock Input
P4		IO	Port 4 is a 6-bit bidirectional I/O port. It is bit-wise programmable for input or output via direction bits. For a pin configured as input, the output driver is put into high-impedance state. Port 4 can be used to output the segment address lines:
P4.0	17	O	A16 Least Significant Segment Address Line
P4.1	18	O	A17 Segment Address Line
P4.2	19	O	A18 Segment Address Line
P4.3	20	O	A19 Segment Address Line
P4.4	23	O	A20 Segment Address Line
P4.5	24	O	A21 Most Significant Segment Address Line