C504 Your Best Choice for AC/DC Motor Control

The C504 extends the midrange of the C500 family of 8-Bit-microcontrollers. Its enhanced functionality and performance as well as a re-programmable version provides highest integration to the customer at the best overall system cost. The powerful 6-Channel Capture/ Compare Unit allows to use the C504 in dedicated AC/DC Motor Control Applications. Noise generation, RFI behaviour and power consumption is minimized by 10-Bit/20 KHz PWM Signals and a programmable deadtime. An external trap signal for quick output switch-off provides a high level of system security.

C504

8-Bit-microcontrollers

Related Solutions/Applications

Features:

- Enhanced 8 bit C500-CPU - Fully Software/Toolset Compatible to Standard 80C51/80C52 Microcontrollers
- 16K Byte On-Chip ROM/OTP (ROM protection available)
- 256 Byte On-Chip Internal RAM (IRAM)
- 256 Byte On-Chip Extended RAM (XRAM)
- Support external Address Range up to 64K Byte Program and Data Memory
- Three 16-bit Timer/Counters
- 3/6 Channel 16-bit Capture/Compare Unit dedicated for AC/DC Motor Control Applications
- 1 Channel 10-bit Compare Unit
- 8-Channel 10-bit A/D Converter
- Full Duplex Serial Interface with Asychronous and Synchronous Modes and Programmable Baudrate Generator
- 32 Multifunctional Input/Output Pins
- Extended Power Saving Modes with Wake-up from Power-Down via External Interrupt
- Enhanced Fail Safe Mechanisms with Programmable Watchdog Timer and Oscillator Watchdog
- Fast Power-On Reset
- P-MQFP-44 - Pin-Compatible to C501 and C513AO Family

Typelist (for details see Parameterlist)

Product Type	Attachment	Description	Order Code
SAB-C504-2R24M	N/A	8-Bit CMOS Microcontroller with mask-programmable ROM (24MHz)	Q67121-DXXX
SAB-C504-2RM	N/A	8-Bit CMOS Microcontroller with mask-programmable ROM (12MHz)	Q67121-DXXX
SAB-C504-L24M	N/A	8-Bit CMOS Microcontroller for external memory (24MHz)	Q67121-C1049
SAB-C504-LM	N/A	8-Bit CMOS Microcontroller for external memory (12MHz)	Q67121-C1048
SAF-C504-2E40M	N/A	8-Bit CMOS Microcontroller with OTP memory for -40/+85 degC (40MHz)	Q67127-C2182
SAK-C504-xxxx	N/A	8-Bit CMOS Microcontroller for extended temperature ranges	on request

Additional Documentation and Information:

Datasheet

Description	Date/State	Size
Datasheet C504 (c504_ds_0500.pdf)	05.00 | OK	1.2 MB

User's Manual

Description	Date/State	Size
C504 - Users Manual (m504.pdf)	10.97 | OK	2.44 MB

Product Brief

Description	Date/State	Size
C504 - Product Overview (p504.pdf)	11.98 | OK	43 kB

Application Notes

Description	Date/State	Size

Using an I2C LCD with the Infineon C500 microcontroller family. Reference code and applications including visual effects (ap242701.pdf)	11.99 | Rel.01	450 kB
Using an I2C LCD with the Infineon C500 microcontroller family. Reference code and applications including visual effects. (ap242701.exe)	11.99 | Rel.01	85 kB
Interfacing SLx 24Cxx I2C-Bus 1 (ap083701.pdf)	03.99 | Rel.01	430 kB
Interfacing SLx 24Cxx I2C-Bus 2 (ap083701.exe)	03.99 | Rel.01	63 kB
Space Vector Modulation and Overmodulation with an 8-bit Microcontroller 2 (ap083601.pdf)	06.99 | Rel. 01	176 kB
Generating sinusoidal 3-Phase-Currents for Induction Machines with the C504/C508 (ap082211.pdf)	10.99 | Rel. 11	635 kB
C504 - CCU, Block Commutation Mode (ap080012.pdf)	03.96 | Rel.12	84 kB
Appnote 79 (anproduc.pdf)	11.98	180 kB
C504 - Generating sinusoidal Three-Phase-Currents for Induction Machines with a time-optimized Algorithm for the Capture Compare Unit (ap082201.exe)	06.97 | Rel.10	690 kB
C504 Important application hints for dead time generation with the Capture , Compare Unit (ap082301.pdf)	04.97 | Rel.01	24 kB

Training

Description	Date/State	Size
8-bit Hands-On Training For C504 with SK-504 Keil C51 (HOT504_1.pdf)	06.00	1000 kB
HOT Training for the Infineon Microcontrollers (hot.pdf)	06-2000	37 kB

Errata Sheet

Description	Date/State	Size
C504-2R AC Step (ac17.pdf)	09.99 | Rel. 1.7	33 Byte
C504-2E CA (otp_erratasheet_rel.1.5.pdf)	06.01 | Rel. 1.5	0 Byte