Product Brief

XC2200I - iCache

16/32-bit µC for Automotive Body Applications

The XC2200I microcontroller series offers a strong performance boost by integrating the INSTRUCTION CACHE (iCache) between the embedded Flash and the CPU. This results in a 30% higher code execution speeds. With frequency improvement of up to 128MHz, performance is additionally improved by up to 50%. iCache Flash memory mapping is family-compatible and allows easy software porting.

The combination of CPU frequency rate of 128MHz, INSTRUCTION CACHE and up to 1MB of embedded Flash make XC2200I a perfect match for automotive body applications that require a higher range of performance or the potential for future performance improvements.

Targeting Automotive Body Applications

- High-end BCM
- Gateway

Highlights

- High performance 16-/32-bit C166SV2 CPU with 5-stage pipeline
- Instruction cache (iCache)
- Up to 128 MIPS peak performance @ 128MHz CPU clock
- Up to 1 MB of flash memory and 90 KB of RAM
- Up to 28 ADC channels
- Up to 6 CAN with gateway functionality
- Optional FlexRay interface

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Features:

- 10ns multiplication (16 x 16-bit), background division (32/16bit) and multiply-and-accumulate (MAC) instructions
- 16-channel interrupt-driven data transfer facilities via peripheral event controller (PEC)
- Up to 28-channel dual A/D converter with optional concurrent sampling, conversion time ~0.675µs
- Two 16-channel general purpose capture/compare units (CC1/CC2)
- Up to 4 capture/compare units (CCU6) for flexible PWM signal generation for any kind of motor control
- Multi-functional general purpose timer unit with 5 timers
- Up to 10 serial interface channels to be used as UART, LIN, SPI, I2C, I2S
- On-chip MultiCAN interface (Rev. 2.0B active) with 256 message objects, up to 6 CAN nodes and gateway functionality
- Up to 2 channels of FlexRay
- 16 priority levels providing 112 interrupt nodes
- On-chip real time clock
- Programmable watchdog timer and oscillator watchdog
- Up to 119 general purpose I/O lines with flexible pin assignment
- On-chip bootstrap loader
- On-chip debug support via 2-wire DAP interface
- Single voltage supply of 3.3 to 5V

- 100/144-pin green LQFP package, 0.5mm (19.7mil) pitch
- Temperature range: -40 to +125°C
- Supported by a large range of development tools

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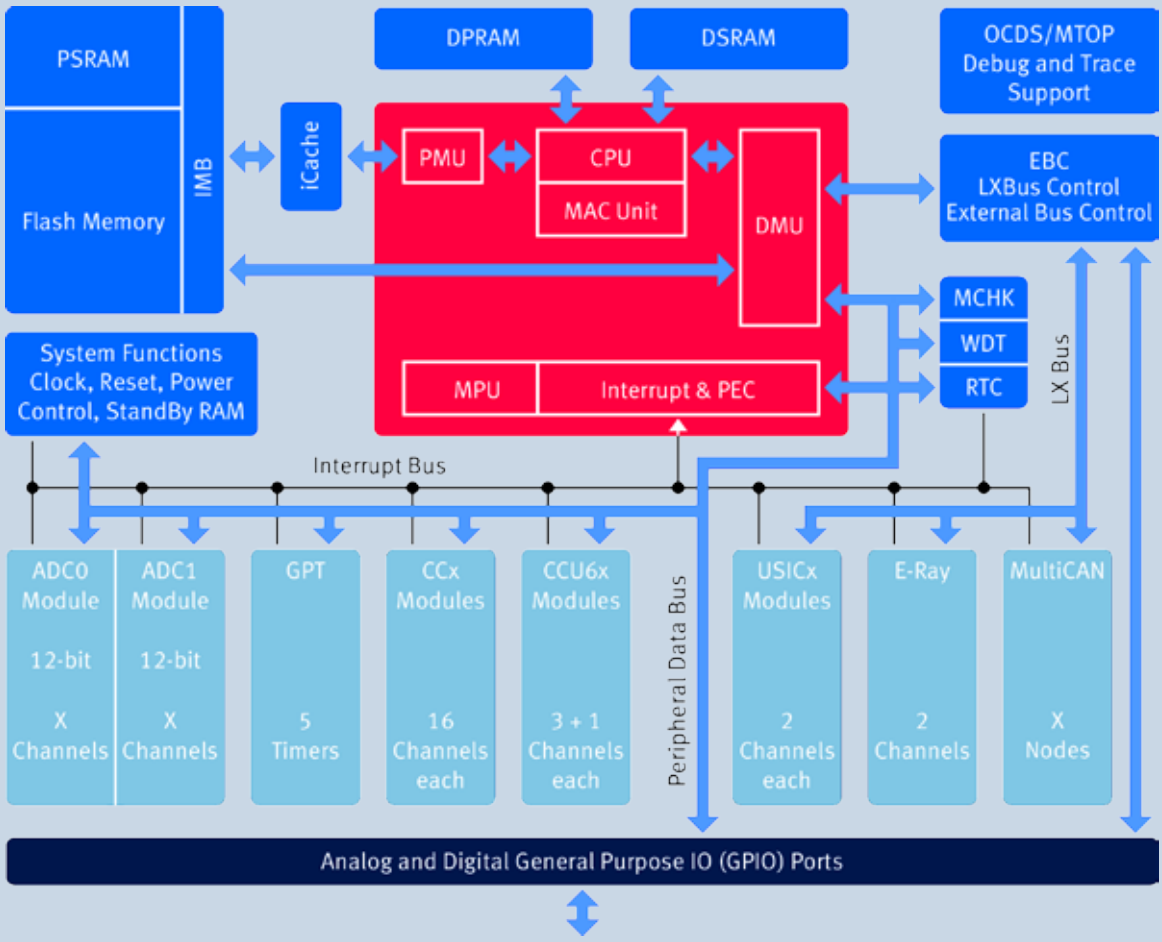

Type	Frequenc [MHz]	eFlash [KByte]	RAM [KByte]	USIC* Channels	CAN Nodes	CCU** Modules	ADC Channels	Package
SAK-XC2268I-136F128L	128	1.088	90	10	6	5	16	PG-LQFP-100
SAK-XC2269I-136F128L	128	1.088	90	10	6	5	16	PG-LQFP-100
SAK-XC2288I-136F128L	128	1.088	90	10	6	5	28	PG-LQFP-144
SAK-XC2289I-136F128L	128	1.088	90	10	6	5	28	PG-LQFP-144

*configurable module: LIN, UART, SSC/SPI, I²C, I²S

*capture compare units: CCU6/CCU2

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