

MPC5777C Microcontroller

Ultra-Reliable MCUs Built on Power Architecture® Technology

Product One-Sheet

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Multi-core Performance – High performance and integration for powertrain control within a power envelope of previous-generation MCUs.

Advanced Timers and ADCs – eTPU timers and Sigma-Delta ADC converters allow for advanced filtering using on-chip knock hardware.

Quality, Security and Redundancy – AEC-Q100 qualification testing, on-chip security encryption protection using CSE and TDM for tamper proofing, and lockstep cores help support ASIL-D and SIL-1 functional safety (ISO26262/ IEC61508) requirements.

Features

- ▶ AEC-Q100 Grade1, Ta 125°C
- ▶ Ethernet, CAN-FD
- ▶ Precision eTPU Timers and ADC
- ▶ Ultra-Reliable MCU

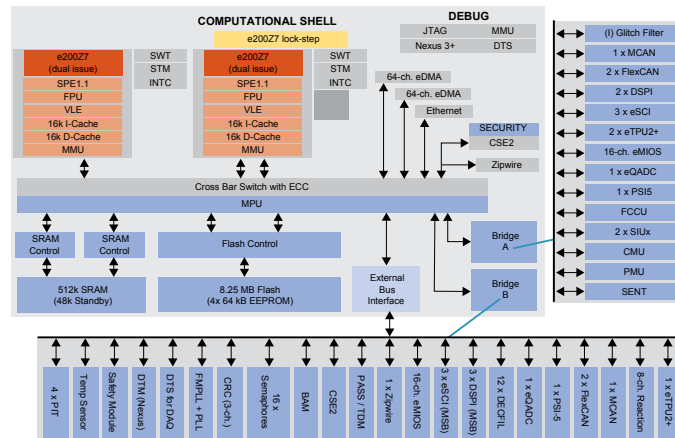
Orderable Samples

Part Number	Speed	Temp Range	Package
SPC5777CCK3MME3	264 MHz	-40°C to 125°C	416-pin MAPBGA
SPC5777CCK3MMO3	264 MHz	-40°C to 125°C	516-pin MAPBGA
SPC5777CDK3MME4	300 MHz	-40°C to 125°C	416-pin MAPBGA
SPC5777CDK3MMO4	300 MHz	-40°C to 125°C	516-pin MAPBGA

MPC5777C Specifications

Flash	8 MB	Timer/PWM	96ch eTPU, 32ch eMIOS
RAM	512 KB	Other	128-ch DMA, ECC, 12ch SENT, Zipwire®, MSB, 2ch PSI-5
Cores	Dual z7 (1 in lockstep)	Analog	70-ch ADCs and 12-ch SD-ADCs
Speed	Up to 300 MHz/core	Ethernet	Ethernet (FEC)
Package	416 to 516 pins	SCI/SPI	5/5
Op Range	3.0 V - 5.5 V	CAN	2 x MCAN-FD and 4 x FlexCAN
Temp	-40°C to 125°C	Security	CSE, TDM, WDOG, CRC

MPC5777C Block Diagram



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Success Stories

- ▶ Engine Management
- ▶ Hybrid and Electric Motors
- ▶ Transmissions

Target Applications

- ▶ Safety Critical Applications
- ▶ Engine Control Units (ECU)
- ▶ Electric DC motor control
- ▶ Ethernet Connectivity
- ▶ Aerospace Engines

Enablement Tools

- ▶ Evaluation Boards:
 - MPC5777C-DEVB
 - MPC5777C-416DS 416-pin adapter
 - MPC5777C-516DS 516-pin adapter
 - MPC57XXXMB motherboard
- ▶ S32 Design Studio (S32DS)
- ▶ NVM/Flash Drivers
- ▶ AUTOSAR MCAL drivers (SDK)
- ▶ GreenHills, Wind River (Diab)
- ▶ Lauterbach
- ▶ iSystem
- ▶ P&E Micro, ETAS and PLS

