MPC5777M Microcontrollers

Ultra-Reliable MCUs Built on Power Architecture® Technology

Product One-Sheet

Get Sample **Data Sheet** **Tools**

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

Distributed Processing – On-chip I/O processor offloads primary cores and allows higher parallel throughput; GTM timers and sigma delta ADC converters allow customers to do advanced filtering using on-chip knock hardware

Quality, Security and Safety Protection – AEC-Q100 quality, offers on-chip security encryption protection using HSM for SHE and TDM for tamper proofing and supports ASIL-D and SIL-1 functional safety (ISO26262/ IEC61508)

Features

- AEC-Q100 Grade1, Ta 125° C
- Ethernet, CAN-FD, and HSM security
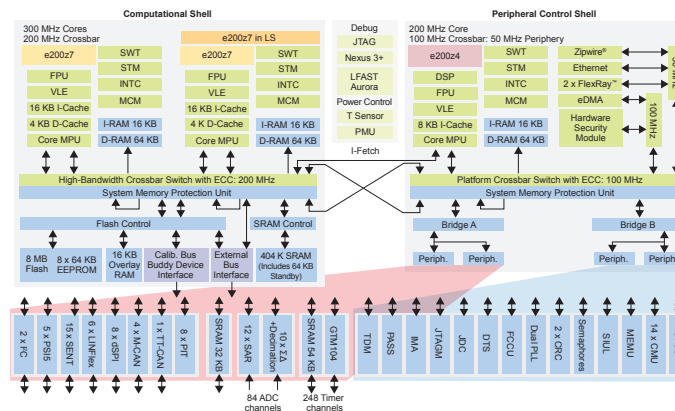- Precision GTM timers and ADC
- Functional safety to ASIL-D/SIL-1 levels

Orderable Samples

PART NUMBER	TEMP. RANGE	PACKAGE
SPC5777MK0MVU8	-40° C to 125° C	416 TEPBGA
SPC5777MK0MVA8	-40° C to 125° C	512 TEPBGA
PPC5777M2K0MVU8B	-40° C to 125° C	416 Emulation Device (ED)
PPC5777M2K0MVA8B	-40° C to 125° C	512 Emulation Device (ED)

MPC5777M Specifications

Flash	Up to 8 MB	Timer/PWM	248-ch. generic timer module
RAM	Up to 596 KB	Other	128-ch. DMA, ECC, 15ch SENT, Zipwire®, SB, 5ch PSI-5
Cores	300 MHz/200 MHz	Analog	84-ch. ADCs and 10-ch. SD-ADCs
Speed	300 MHz/core	Ethernet/ FlexRay™	Ethernet (FEC), dual channel FlexRay™
Package	416 to 512 pins	SCI/dSPI/I²C	Up to 6 / 8 / 2
Op Range	2.9 V–5.5 V	CAN	4 x MCAN-FD and 1 x TTCAN
Temp	125˚C (ambient)	Security	HSM, TDM, WDOG, CRC

MPC5777M Block Diagram

Success Stories

- Factory automation equipment
- Engine management
- Hybrid and electric motors
- Transmissions

Target Applications

- Engine control units (ECU)
- Electric DC motor control
- Critical functional safety
- Aerospace engines

Enablement Tools

- Evaluation boards:
  - MPC5777M-416DS 416-pin adapter
  - MPC5777M-512DS 512-pin adapter
  - MPC57XXXMB motherboard
- S32 Design Studio (S32DS)
- NVM/flash and LIN drivers
- AUTOSAR MCAL drivers
- GTM selector, Freemaster
- GreenHills, Wind River® (Diab)
- HighTec, Lauterbach
- ElectroBit (AUTOSAR OS/MCAL)
- P&E Micro, ETAS and PLS

www.nxp.com/MPC5777M