MPC574xB/C/G Microcontrollers

Power Architecture®-based MCU for Automotive and Industrial Applications

Features

- AEC-Q100 Grade1, Ta 125 °C
- 12-bit ADC, PWM/Timers
- CAN, LIN, Ethernet, USB
- Ultra-reliable MCU

Product One-Sheet

Get Samples | Data Sheet | Tools

Performance and Low Power – Up to 2 x 160 MHz core with single precision floating point, variable length encoding (VLE), one 80 MHz core with VLE, low-power unit, pretended networking support

High Reliability – AEC-Q100, automotive quality, 125 °C ambient temperature

Feature Rich – Ethernet with audio-video bridge (AVB) and optional 2nd Ethernet, USB, FlexRay™, LIN, CANFD, µSDHAC, I²C, SAI, DSPI

Safety and Security – Hardware security module, ISO 26262 / IEC 61508, ECC, MNIST/LBIST, FCCU, voltage and clock monitors

MPC574xB/C/G Specifications

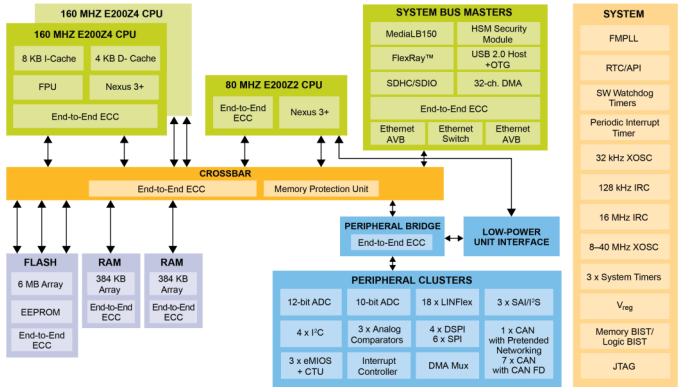
Flash	Up to 6 MB	Timer/PWM	Up to 96 ch., eMIOS
RAM	Up to 768 KB	Other Timer	Up to 16 PIT, 3 STM, 4 SWT
Core	Up to 2 x Z4 1 x Z2	Analog	Up to 2 ADC (10 & 12 bit), 3 Comparators, CTU
Speed	2 x 160 MHz 1 x 80 MHz	Communications	Up to 4 DSPI, 6 SPI, 18 LIN, 8 CAN FD, 4 I²C, 1 x USB, 2 x ENET, 1 x SDHC
Op Range	3.3 to 5.5 V	Safety & Security	HSM (optional SHE firmware), PASS and TDM, FCCU
Temp	-40 to 125 °C		
Package	176 LQFP 256/324 BGA	Low Power	LPU_SLEEP, LPU_STOP, LPU_STANDBY mode sup-

Orderable Samples

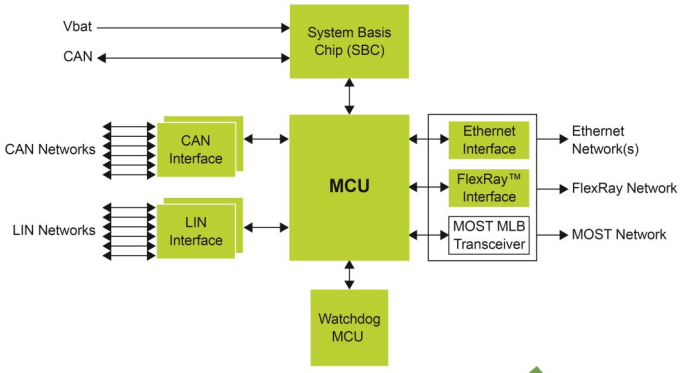
Part Number	Temp Range	Core	Flash	Package
SPC5747/8/C/G	-40 to 125 °C	Up to 3	Up to 6 MB	176 LQFP, 256/324 BGA
SPC54745/6/B/C	-40 to 125 °C	Up to 2	Up to 3 MB	176 LQFP, 256/324 BGA

www.nxp.com/MPC5748G

MCU Block Diagram



Central Gateway/ Network Application



Product Longevity

Energy Efficient Solutions by Freescale

Success Stories

- Ethernet gateway
- Central control module
- Freight truck lighting
- Audio gateway

Target Applications

- Battery management
- High-end control module
- Infotainment gateway
- Central gateway
- Security and building control systems
- Process control
- Home/ industrial automation

Enablement Tools

- S32 Design Studio and Software Development kit
- Autosar OS and MCAL
- Runtime Software:
  - Flash and EEPROM driver
  - Software core self-test
- Compiler: Green Hills®, Wind River®, High Tec
- Debugger: Lauterbach®, iSystem, PLS, Green Hills, P&E®
- Development Hardware:
  - Evaluation boards (DEVKIT)
  - Nexus adapter boards

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Document Number: MPC574XBCDG REV 5