



MCU Built on Power Architecture® Technology

# Qorivva MPC5668G Single-Chip Automotive Gateway

Dual-core MCU with on-chip FlexRay™, Ethernet and media local bus

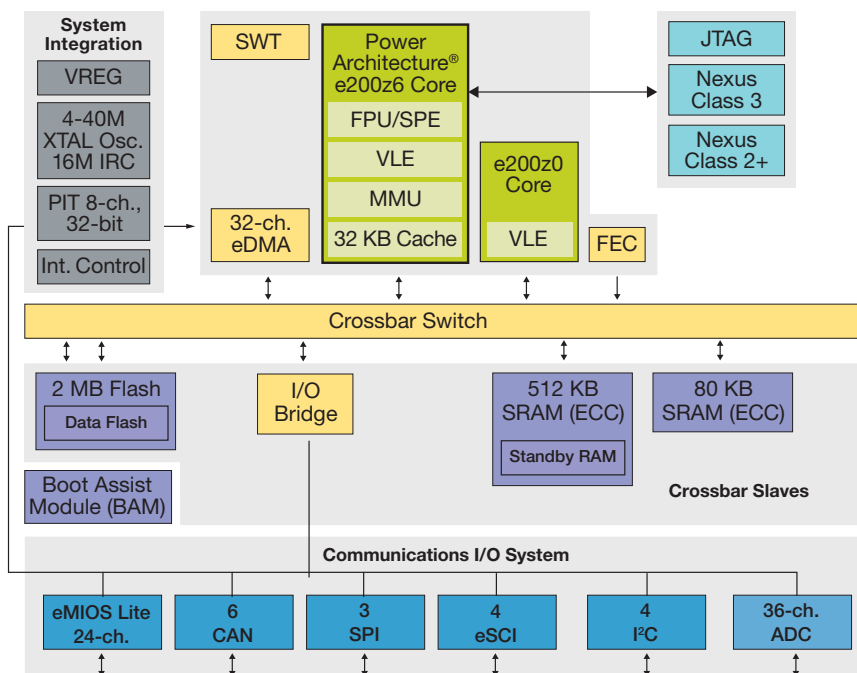
## Target Applications

- Automotive gateways
- Advanced central body controllers

## Overview

Electronic content in vehicles keeps increasing, while a number of different communication protocols, including consumer protocols making their way into the automotive market, keep these electronic components working together. The 32-bit Qorivva MPC5668G MCU, built on dual-core Power Architecture® technology connects, at one single point, all the possible communication protocols you can find in a car. The dual-core architecture provides the performance throughput you need to maintain real-time operation backed up by strong third-party ecosystem support.

## Qorivva MPC5668G Block Diagram











## Product Features

Device	Qorivva MPC5668G
Core platform	Power e200z6+e200z0
Max speed	116 MHz
Cache	32 KB
Program flash	2 MB
SRAM	592 KB
DMA	32-ch.
EEPROM	Emulated in program flash (16 KB sectors)
eSCI	4
DSPI	3
CAN	6
I <sup>2</sup> C	4
FlexRay support	Dual channel
MediaLB support	MLB DIM controller
Ethernet support	Fast Ethernet controller (FEC)
Debug support	JTAG interface, Nexus 3 on e200z6, Nexus 2+ on e200z0
Timed I/Os	eMIOS 24-ch., 16-bit
Internal timers	PIT 8-ch., 32-bit
Maximum I/O	155
ADC	36-ch., 10-bit
Voltage	5 or 3.3 V
Temp. range	-40 °C to +105 °C
Package options	208 MAPBGA
Low-power support	Multiple oscillators, automatic periodic interrupt and real-time clock

## Key Benefits

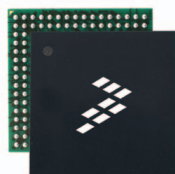
- Supports all automotive communication protocols currently available
- Optimized for communication data management:
  - 592 KB embedded RAM, split into two blocks to allow concurrent accesses by bus masters
  - Additional e200z0 core to pre-process incoming communication data from high-speed networks, such as FlexRay™ and Ethernet
- Single-chip SoC solution for best cost and EMC performance

## Development Tools Support

	Development Tools	Software (RTOS, Communication Stacks)	Other
	Evaluation kit including CodeWarrior (build only)	AUTOSAR OS and MCAL drivers, example code	RAppID initialization tool
	MULTI development environment		TimeMachine
	Workbench compiler and IDE		
	Trace32 debug and trace solutions		
	IC3000 debug and trace solutions		
	Nexus wiggler and debugger		
		Tresos, FlexRay and Ethernet stacks	
		FlexRay, CAN and LIN stacks	

## Ordering Information

Part Number	Description
SPC5668GK0VMG	208 MAPBGA automotive qualified, -40 °C to +105 °C, 116 MHz
PPC5668GF1AVMJ	256 MAPBGA prototypes, -40 °C to +105 °C, 116 MHz (for development purposes only, not available for production)
MPC5668GKIT	Evaluation kit, including a board, software support CD, P&E JTAG wiggler, documentation. This comes with free permanent CodeWarrior compiler/debugger license limited to 128 KB code.
MPC5668GNEXUSADAP	256 MAPBGA emulation adapter board for full Nexus access without losing GPIOs needed by the application.



**208 MAPBGA**  
17 mm x 17 mm

For more information about Qorivva products, visit [freescale.com/Qorivva](http://freescale.com/Qorivva)

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