



**THE DATASHEET OF  
SPC5742PK1AMLQ8R**



# MPC574xP Microcontroller

Power Architecture®-based MCU  
for Automotive and Industrial Applications

Product One-Sheet

Data Sheet

Tools

Buy

**Performance**—2 x e200z4 cores in delayed lockstep operating up to 200 MHz, embedded floating point unit, 32-channel eDMA in delayed lockstep

**High Reliability**—AEC-Q100, automotive quality, up to 135°C ambient temperature

**Abundant Features**—FlexCAN, LINFlexD, DSPI, SENT, LFAST SIPI support, Dual-channel FlexRay™, Ethernet

**Functional Safety**—Built to support functional safety (ISO 26262/ASIL D and IEC 61508 SIL3), end-to-end ECC

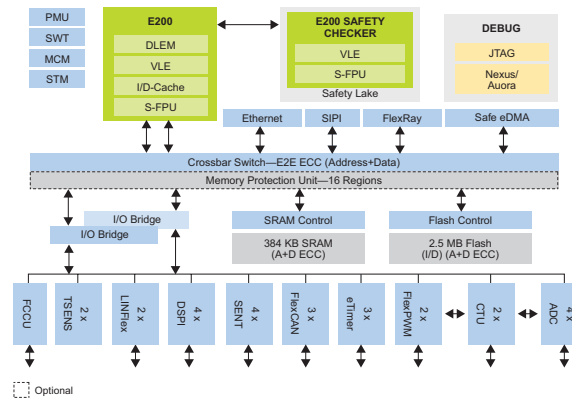
## MPC574xP Specifications

Flash	Up to 2.5 MB	Timer/PWM	2 x FlexPWM w/ 4 x (2+1) ch.
RAM	Up to 384 KB	Other Timer	2 x eTimer w/ 6-ch., 1 x PIT / STM w/ 4-ch., SWT
Core	2 x e200z4 lockstep	Analog	4 x 12 bit ADC w/ 16-ch.
Speed	Up to 200 MHz	Comm	SENT, ADC, FlexCAN, FlexRay, LinFlex, DSPI, FlexPWM and SIPI/LFAST 3G IF
Package	144 LQFP/257 BGA		
Op Range	3.15 V to 5.5 V	Safety	Core/DMA lockstep, e2eECC, duplicate periphery, LBIST/MBIST, ADC self-test, FCCU
Temp	-40°C to up to 135°C		

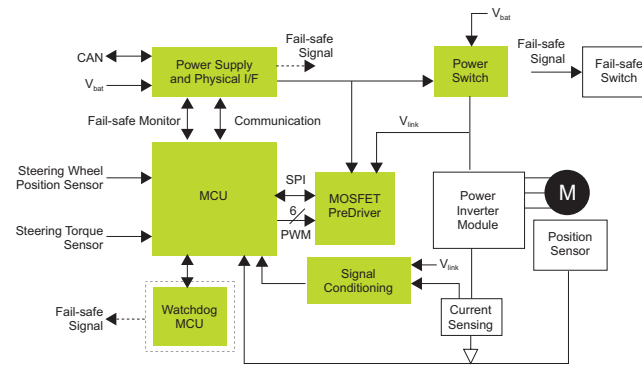
## Orderable Samples

Part Number	Temp. Range	Flash	SRAM	Package
SPC5744P	-40°C to 125°C	2.5 MB	384 KB	144 LQFP/257 BGA
SPC5743P	-40°C to 125°C	2 MB	256 KB	144 LQFP/257 BGA
SPC5742P	-40°C to 125°C	1.5 MB	192 KB	144 LQFP/257 BGA
SPC5741P	-40°C to 125°C	1 MB	128 KB	144 LQFP/257 BGA

## MPC574xP Block Diagram



## Motor Control Application



## Success Stories

- ▶ Electronic power steering
- ▶ Wireless charging
- ▶ Shock controller
- ▶ DC-DC converter

## Target Applications

- ▶ Electric power steering (EPS)
- ▶ Airbag system
- ▶ Safety domain control
- ▶ Safety motor controller
- ▶ Active driver assistance system
- ▶ Adaptive cruise control
- ▶ Braking and stability control
- ▶ Active suspension

## Enablement Tools

- ▶ Development hardware:
  - Mother evaluation board
  - Daughter adapter boards
- ▶ Runtime software:
  - Flash and EEPROM driver
- ▶ Compiler: Green Hills, Wind River
- ▶ Debugger: Lauterbach, iSystem, PLS



[www.nxp.com/MPC574xP](http://www.nxp.com/MPC574xP)

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