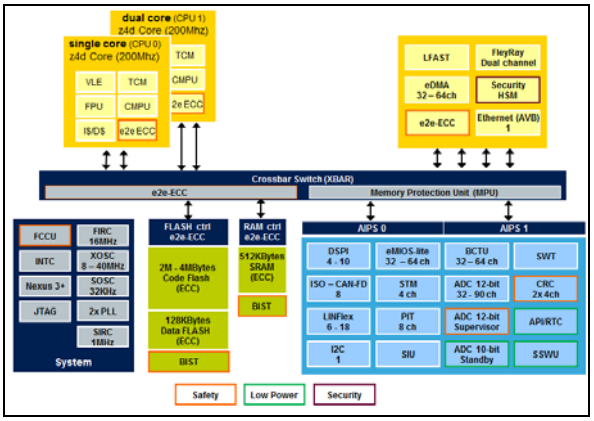
SPC584C80C3, SPC58EC80C3

A scalable approach to your body, networking and security platforms

Data brief - production data



Features

- Core: single or dual e200z4d core up to 180 MHz
- Code: 2Mbytes to 4Mbytes Flash
- Data: 128kbytes data Flash
- RAM: 256kbytes to 512kbytes RAM
- Timer: 64ch, 16-bit counter timed I/O
- ADC: up to 96ch on 4x 12-bit and 1x 10-bit SAR
- Networking: Up to 18xLIN, 8x ISO CAN FD, 1x Ethernet with AVB, 1x FlexRay
- Security: HSM according to Evita medium, censorship and tamper detection
- Low Power: HALT, STOP and STBY Smart Standby Unit
- Safety: ASIL-B, E2E ECC, CRC unit, FCCU
- Other: MPU, eDMA, 8xSPI, I2C, Cross Triggering Unit, PIT, RTC/API, STM
- Package: eTQFP64/100/144, eLQFP176 and BGA292
- Supply: 5V or 3.3V with internal regulator
- Temperature: -40°C / +105°C or +125°C

Description

The SPC58 B/C/G-Lines constitute a general-purpose MCU family targeting Body, Networking and Security applications.

Built on the legacy of successful 90nm products, SPC56xB/C/D, this new product generation in 40nm offers the widest range of compatible devices from 512k up to 6M bytes Flash combined with the latest communication interfaces like ISO CAN FD and Ethernet with AVB capability.

Designed according to ISO 26262, the SPC58 B/C/G-Lines family supports ASIL-B (optional ASIL-D) as well as a high Security level according to EVITA medium.

The SPC58 C-Line offers a high integrated, high performance devices available in high-efficiency pin count small packages like eTQFP64 featuring eight ISO CAN FD or Ethernet available in eTQFP100. The C-Line is fully scalable and compatible up to eLQFP176 and BGA292.

The 40nm technology allows to further reduce the power consumption in RUN mode, while the advanced low power modes manage even complex contact monitoring sequences in STANDBY mode and without CPU intervention.

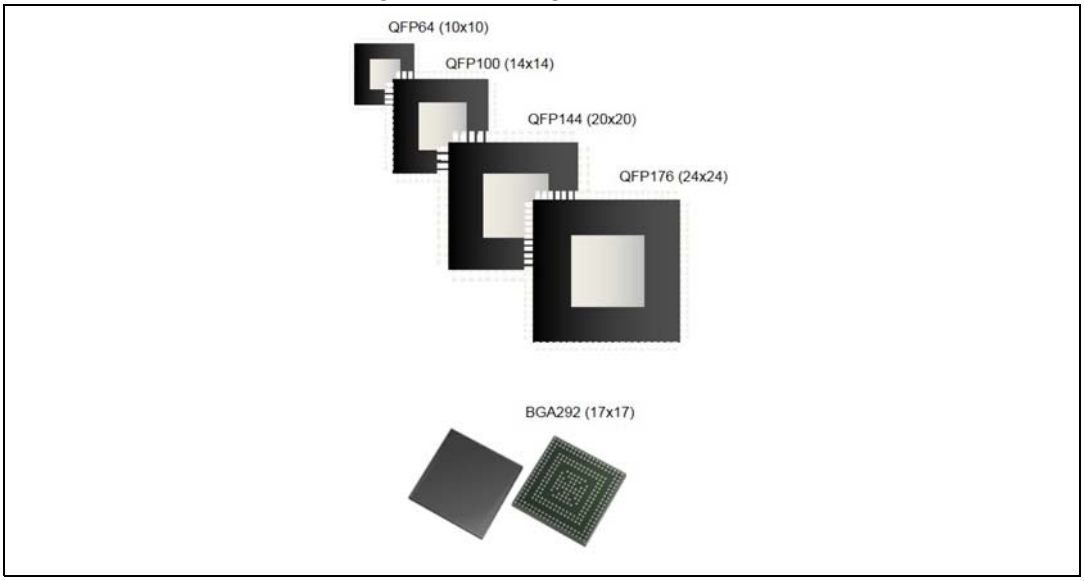
1 Package

The package availability ranges from TQFP64 up to eLQFP176 and high pin count BGA292 offering the highest peripheral accessibility for an unbeatable networking solution.

Table 1. Ordering information

Order code	Reference
SPC584Cx	Single core e200z4d SPC58 automotive MCU family
SPC58ECx	Dual core e200z4d SPC58 automotive MCU family

Figure 1. Package information



2 Software library

The product family is provided with a set of software downloadable by ST web, registration is required, while 3rd parties will support the ECU development.

The offer includes:

- Flash drivers for run-time and off-line device programming
- AUTOSAR 4 compliant MCAL developed and distributed by ST
- Core Self Test and Instruction Self Test
- Software capable of supporting safety critical ECUs according to ISO26262.
- Cryptography Software Library according to SHE+
- RTOS and AUTOSAR OS (SC 1, 2, 3, 4) from ETAS, Vector and Elektrobit.
- AUTOSAR BSW from ETAS, Vector and Elektrobit.

3 Tools

A set of ST and Third Parties tool is available to explore the product family starting from budgetary cost evaluation boards to top class solutions.

The comprehensive tools ecosystem for evaluation and advanced development devices include:

- A full line Discovery and Premium evaluation tools for quick and easy evaluation and development.
- ST SPC5Studio Integrated Development Environment with graphically configurable RLA drivers, Pin Map wizard, direct integration of a Free GCC compiler and interface to PLS UDE debugger.
- Full support from state of the art built tools and IDE from Altium/Tasking, Green Hills, Hightec and Wind River.
- Full debug and high speed tracing with solutions from PLS, ETAS, Lauterbach, Vector, iSystems and P&E Microsystems.

4 Revision history

Table 2. Document revision history

Date	Revision	Changes
05-May-2016	1	Initial release.