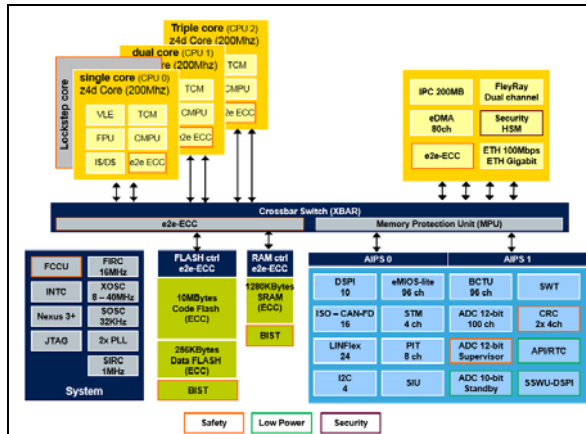


A scalable approach for high-end body, networking and security platforms for Automotive

Data brief



- Package: eTQFP144, eLQFP176, FPBGA302, FPBGA386
- Supply: 5V or 3.3V with internal regulator and external ballast or external LV supply
- Temperature: -40°C / +105°C or +125°C

Description


The SPC58 H Line line is a general-purpose MCU targeting high-end Body, Networking and Security applications. SPC58 H Line extends the Chorus Series of successful 40nm Automotive MCUs. and offers a seamless extension with compatible devices from 2M up to 10M bytes Flash. Combining the 3x PowerPC cores (200Mhz) with a rich set of communication interfaces like 2x Ethernet, 16x ISO CAN FD and 24x LIN, it introduces new features to support Connected Gateway applications with Gigabit ethernet MAC for fast download, an hyperbus interface to extend the internal RAM and the eMMC interface to allow big data file storage.

To manage OTA update while the application keeps running, the 10Mbyte flash can be programmed in background and its context swapped on reset.

The Smart Standby domain including RAM, RTC, ADC and a new low power SPI module increases the contact monitoring capability keeping the consumption extremely low (<160uA) and guaranteeing a fast start-up on wake-up event (<500us).

The SPC58 H Line offers the highest performance and integrated devices available in high-efficiency pin count packages like eTQFP144 fully scalable up to FPBGA386. Designed according to ISO 26262, the SPC58 H Line line supports ASIL-B/D offering 1 lockstep core as well as a EVITA full Security supporting asymmetric keys. With its 100Mbit IPC the Chorus H Line is designed for system scalability coupling 2 Chorus H devices to build a system with 6 cores, 20Mbyte flash and 2x Gigabit ethernet.

Features

- Designed for automotive applications 
- Core: triple z4d core up to 200 MHz
- Code: 10Mbytes Flash (with context swap capability for OTA support)
- Data: 256kbytes data Flash
- RAM: 1280kbytes RAM
- External memory I/F: eMMC/SDIO, Hyperbus
- IPC: back to back ETH 100Mbit or 1 Gigabit
- Timer: 96ch, 16-bit counter timed I/O
- ADC: 100ch on 5x 12-bit and 1x 10-bit SAR
- Networking: 16x ISO CAN FD, 1x Ethernet 100M with AVB, 1x Ethernet Gigabit with AVB and flexible receive parser, 1x FlexRay, 24xLIN
- Security: HSM acc. to Evita full, censorship and tamper detection
- Low Power: HALT, STOP and STBY Smart Standby Unit including DSPI-LP
- Safety: ASIL-D, E2E ECC, CRC unit, FCCU
- Other: MPU, eDMA, 8xSPI, 4xI2C, Cross Triggering Unit PIT, RTC/API, STM

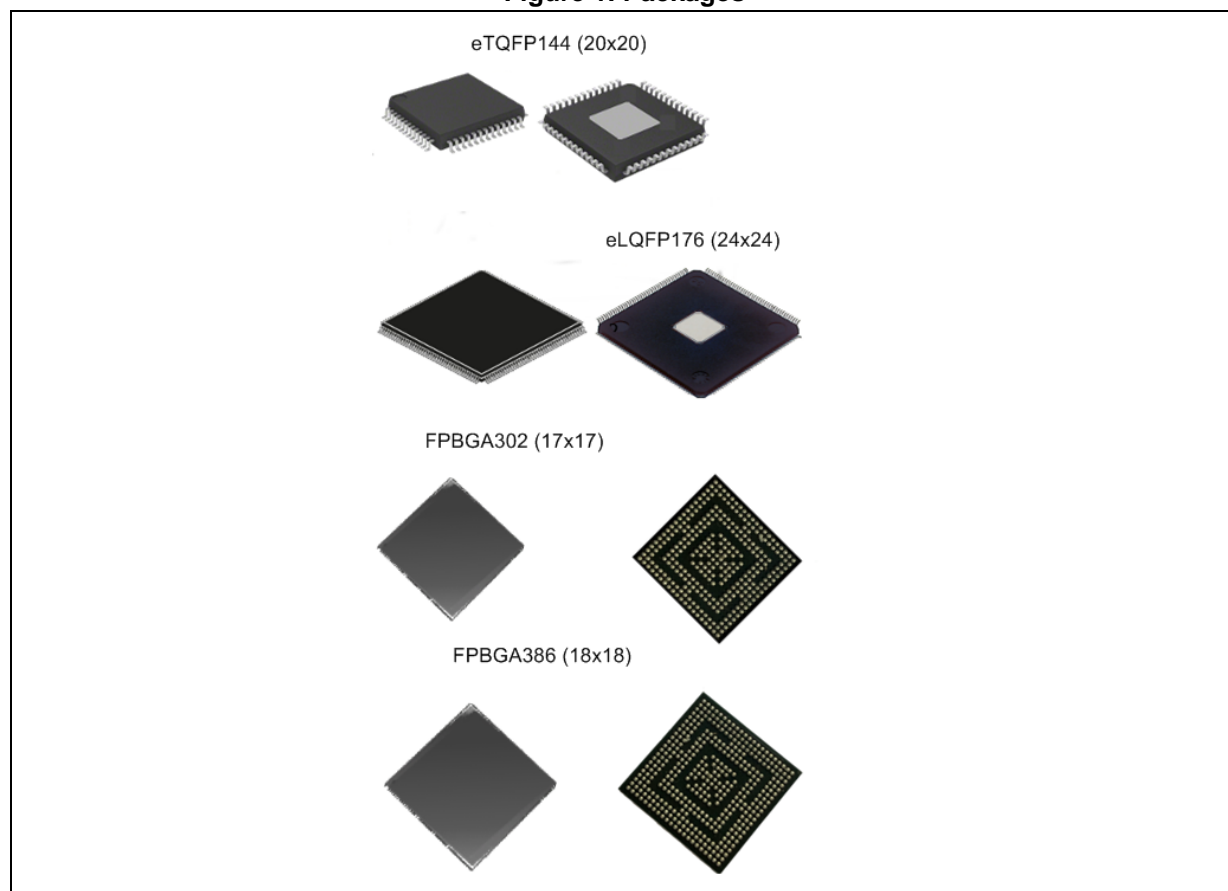
1 Package

The package availability ranges from eTQFP144 up to the FPBGA386 offering the highest peripheral accessibility for an unbeatable networking solution.

Table 1. Order code

Order code	References
SPC58EHx	Dual core e200z4d SPC58 automotive MCU family
SPC58NHx	Triple core e200z4d SPC58 automotive MCU family

Figure 1. Packages



2 Software Library and Tools

The product family is provided as a set of software libraries to enable application development. The libraries are available on st.com and they include:

- Flash drivers for run-time and off-line device programming
- MCAL drivers
- Core Self Test
- Security Firmware for HSM

Additional software components and tools are available by selected 3rd parties:

Figure 2. Software components and tools



3 Revision history

Table 2. Document revision history

Date	Revision	Changes
17-Oct-2018	1	Initial release.

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