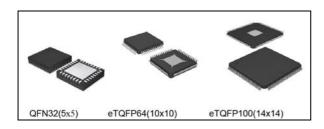
SPC582Bxx



A scalable approach to your body, networking and security platforms

Data brief



Features

 Package availability ranges from QFN32 up to the eTQFP100

• Core: single z2d core up to 80 MHz

Code: 512 kBbytes to 1 Mbytes Flash

Data: 64 kbytes data Flash

RAM: up to 96 kbytes RAM

Timer: 32ch, 16-bit counter timed I/O

ADC: 32ch 1x 12-bit

Networking: Up to 6xLIN, 7 x ISO CAN FD

 Low Power: HALT, STOP and STBY Smart Standby Unit

Safety: ASIL-B, CRC unit, FCCU

 Other: MPU, eDMA, 4xSPI, I2C, Cross Triggering Unit, PIT, RTC/API, STM

Package: QFN32, 2TQFP64, eTQFP100

Supply: 5V or 3.3V with internal regulator

Temperature: -40°C / +105°C or +125°C

Description

The SPC58 2B-Line constitutes 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 2B-Line offers a high integrated, high performance devices available in high-efficiency pin count packages like eTQFP100 featuring an e200z2 core with seven ISO CAN FD. The 2B-Line is fully scalable and compatible up to eLQFP100. 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.

Table 1. Device summary

Part number			Package	References
512 KByte	768 KByte	1 mByte	rackage	References
SPC582B50Q2	SPC582B54Q2	SPC582B60Q2	QFN32	
SPC582B50E1	SPC582B54E1	SPC582B60E1	eTQFP64	SPC582BXX
SPC582B50E3	SPC582B54E3	SPC582B60E3	eTQFP100	

Overview SPC582Bxx

1 Overview

1.1 Block diagram

Functional blocks diagram of SPC58 2B-Line MCU.

single core z215 Core (80Mhz) VLE eDMA CMPU SPFPU e2e-ECC e2e ECC 11 Crossbar Switch (XBAR) e2e-ECC Memory Protection Unit (MPU) FLASH ctrl e2e-ECC RAM ctrl e2e-ECC FIRC 16MHz FCCU eMIOS 32 ch BCTU 32 ch DSPI 4 SWT 1 XOSC 8 - 40MHz 96KBytes SRAM (ECC) INTC 1MByte Code Flash (ECC) STM 4 ch ADC 12-bit 32 ch CRC 2x 4ch ISO - CAN-FD Nexus 3+ BIST JTAG 2x PLL LINFlex 6 64KBytes Data FLASH API/RTC SIRC 1MHz (ECC) I2C SIU BIST System Low Power Security Safety

Figure 1. Block diagram

SPC582Bxx Software library

2 Software library

The product family is provided with a set of software libraries downloadable by ST web, registration is required, to facilitate application development.

- The offer includes:
- Flash drivers for run-time and off-line device programming
- MCAL developed and distributed by ST
- Core Self Test
- Safety adapted MCAL
- RTOS/Kernel RTOS from ETAS, Vector and Green Hills products
- AS BSW from Vector Informatik GmbH

2.1 Tools

A set of ST and third parties tools are available to explore the product family starting from budgetary cost evaluation boards to top class solutions.



Figure 2. Third parties tools

Revision history SPC582Bxx

3 Revision history

Table 2. Document revision history

Date	Revision	Changes
06-Mar-2017	1	Initial release.

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