Getting Started with the Traveo™ Family S6J3400 Series

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Associated Part Family: Traveo Family S6J3400 Series
Related Documents: For a complete list, click here.

AN214051 describes the development tools available for the Traveo™ family S6J3400 series.

1 Introduction

This application note describes the development environment and tools to get started with the Traveo family S6J3400 series. The series includes an Arm® Cortex®-R5F CPU core with Secure Hardware Extension (SHE), CAN FD, memory, and analog and digital peripheral functions in a single chip. The product lineup of the S6J3400 series features 100-pin to 176-pin packages and memory size variations. Refer to the related documents for more details.

2 Traveo Family S6J3400 Series Feature Set

The Traveo family S6J3400 series has a body control module (BCM) feature and other resources, as Figure 1 shows.

Figure 1. Traveo Family S6J3400 Series Block Diagram (maximum channels)
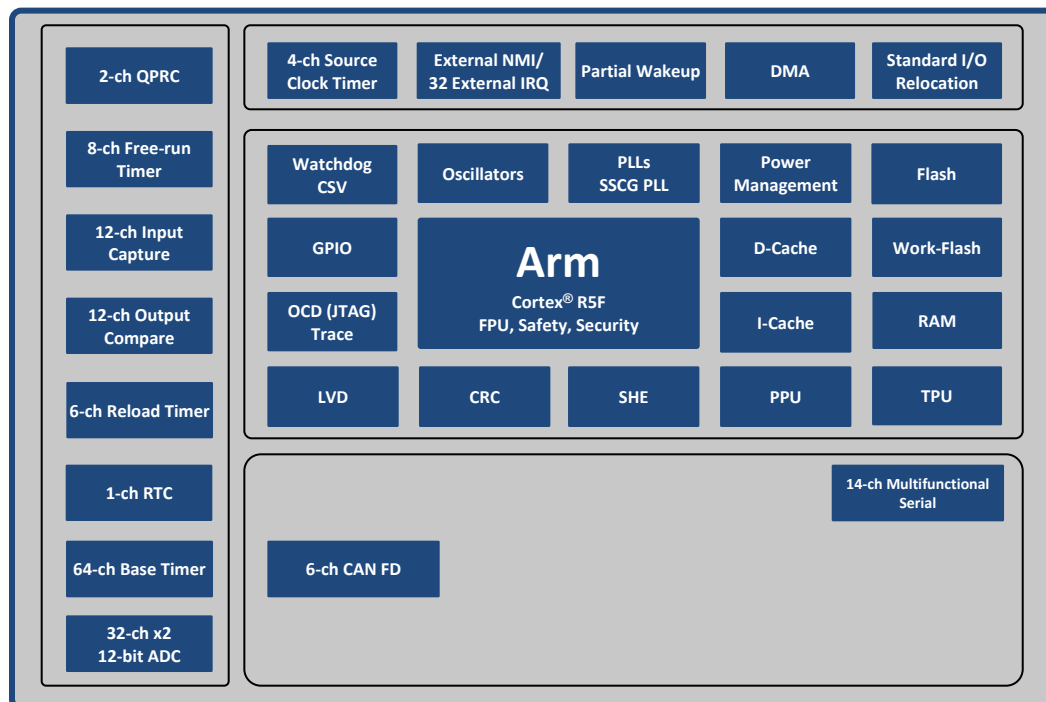
The following are the major features of the Traveo family S6J3400 series. For more information, see related documents.

- 32-bit MCU core system
  - Up to 132-MHz Arm Cortex-R5F
  - Up to 1-MB flash memory, up to 128-KB RAM with backup RAM
- Supply voltage
  - 3.3 V or 5.0 V
- Interface
  - Up to 6-ch CAN FD, up to 14-ch multifunction serial interface
- ADC
  - Up to 64 ch
- Packages
  - 100-pin LQFP
  - 144-pin LQFP
  - 176-pin TEQFP

3 Development Environment and Tools

3.1 Evaluation Board

Cypress provides a wealth of evaluation boards to help you get started with an MCU. The S6J3400 series evaluation boards work by connecting the main board and sub-board. Contact your sales representative or Cypress Technical Support if you want to buy the evaluation board.

Table 1 lists the functions that can be used by the Traveo board connection and the current part numbers for the evaluation boards in the S6J3400 series for the 176-pin, 144-pin, and 100-pin packages with MCU.

Table 1. Evaluation Boards

Part Number	S6T3J300411A000A2	S6T3J300411A176A2	S6T3J300411A144A2	S6T3J300411B100A2
Description	Main board	Sub-board	Sub-board	Sub-board
Pins	–	176	144	100
CAN FD	6 ch	–	–	–
LIN	2 ch	–	–	–
CXPI	1 ch	–	–	–
ADC	64 ch	–	–	–
Main board	–	Connect	Connect	Connect

3.2 Sample Software

Contact your sales representative or Cypress Technical Support if you want to use the sample software.

3.3   Debugging Tools

Debugging tools are provided by third parties, as listed in Table 2. Cypress provides sample software (template project and sample driver) for each tool. The template project includes I/O header files, startup settings, and some sample sources. It is recommended to start using the S6J3400 series with the evaluation board and tools. The sample driver includes some sources for peripheral features of the S6J3400 series.

Table 2. Debugging Tools

Vendor	Software (Integrated Development Environment)	Hardware (Debugging Tools)
Green Hills Software	MULTI v2015.1.6 or later	Green Hills Probe
IAR Systems	IAR Embedded Workbench for Arm (EWARM) v7.30.4 or later	I-jet

4   Connection Diagram and Operation Modes

The S6J3400 series has JTAG ports to connect with a debugging tool, but the nRESET JTAG port is not supported in this series. Therefore, nRESET should be connected to the RSTX port of this product, if needed. Figure 2 shows an example of a basic connection diagram for S6J342AF.

Figure 2. S6J342AF Basic Connection Diagram with Arm JTAG 20
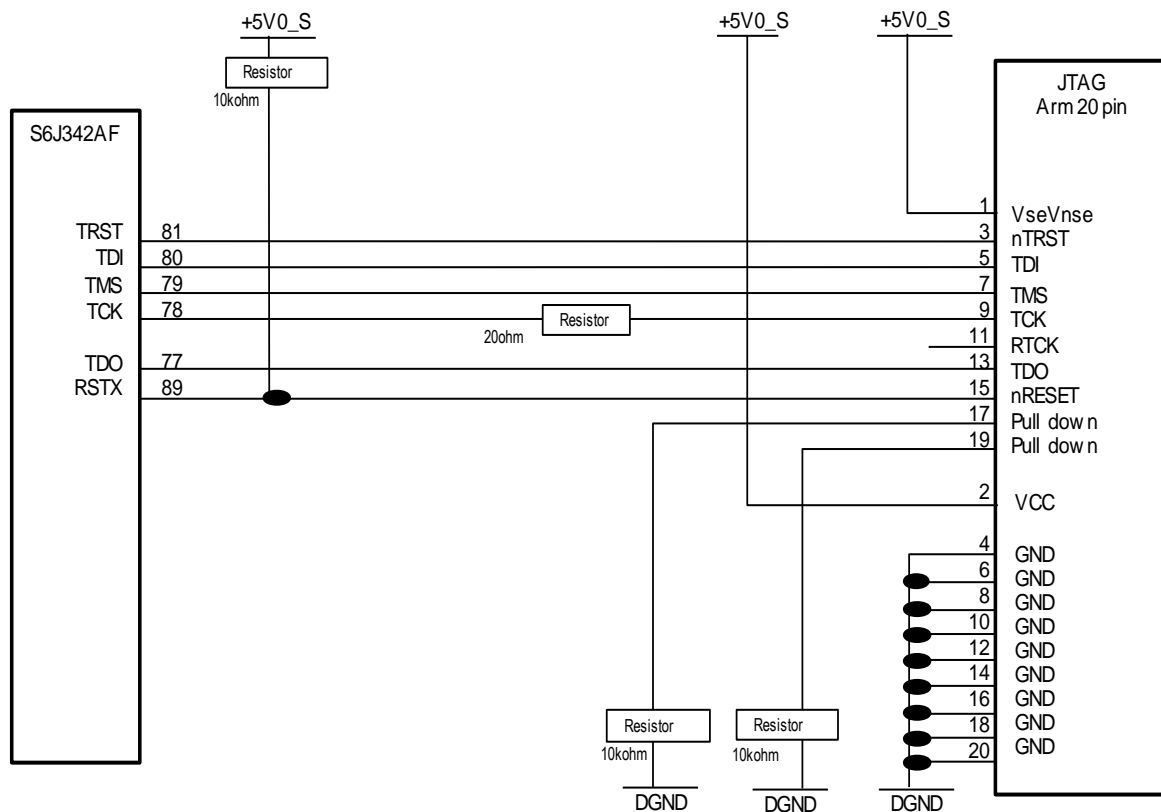
The S6J3400 series has a User mode and Serial Write modes. Figure 2 shows the User mode connection. The Serial Write modes use P020 and P022 with the MODE port. Table 3 lists the operation modes combined with the MODE, P020, and P022 ports.

The Serial Write modes (sync and async) support writing a user program to the flash memory included in the MCU through the UART connection. The PC and target MCU are connected via a serial cable. Cypress provides flash program software that works on the PC, and the evaluation board has an UART port. Contact your sales representative or Cypress Technical Support if you want to evaluate the flash program software.

In addition, a serial flash memory programmer provided by DTS INSIGHT Corporation supports writing a user program to the flash memory using a serial port in the S6J3400 series. A Parallel Flash programmer provided by Minato Advanced Technologies Inc. and BPM Microsystems Inc. supports writing a user program to the flash memory.

Table 3. Operation Modes

Operation Mode	MODE	P020	P022
User mode	1	–	–
Serial Write mode (sync)	0	1	0
Serial Write mode (async)	0	1	1
JTAG Boundary Scan Mode	0	0	0

5 Summary

Cypress provides a wealth of evaluation boards and sample software to help you get started with Traveo. To evaluate the S6J3400 series evaluation boards, contact your sales representative or Cypress Technical Support.

6 Related Documents

- Traveo Family Hardware Manual Platform Part

- S6J3400 Series 32-Bit Microcontroller Traveo Family Hardware Manual

- S6J3400 Series 32-Bit Microcontroller Traveo Family Datasheet

Document History

Document Title: AN214051 – Getting Started with the Traveo™ Family S6J3400 Series

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Revision	ECN	Submission Date	Description of Change
**	5381158	08/05/2016	New application note.
*A	5840501	08/01/2017	Updated logo and copyright.
*B	6662520	08/29/2019	Updated the support package type. Updated the part number of the 100-pin Sub-board in Table 1. Updated Table 3. Updated 6 Related Documents links.

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