CYPRESS
TRAVEO™ II
CYT2B6/2B7/2B9/2BL SERIES
MICROCONTROLLERS
For Automotive Body Control

Cypress’ Traveo II CYT2B6/2B7/2B9/2BL series MCUs integrate embedded CXPI interface and the CAN FD interface for automotive body applications that enable fast communication and quicker response time. The Traveo II family of microcontrollers have a whole range of options for you to choose from.

www.cypress.com/traveoII

FEATURES

Traveo II CYT2B6/2B7/2B9/2BL series offers cutting-edge performance and robust safety features for automotive body applications that need fast communication and quicker response time.

32-bit MCU Core Systems:
- 160 MHz Arm® Cortex®-M4F Single
- Up to 4 MB code flash, 128 KB work flash and 512 KB SRAM and Arm® Cortex®-M0+

Power Supply Voltage:
- 2.7 V to 5.5 V

Connectivity:
- Up to 8-ch CAN FD, 4-ch CXPI (CYT2B9/2BL only), 8-ch Serial Communication Block (SCB), 12-chLIN/UART

A/D Converter:
- Up to 64-ch, 12 bit with 3x successive approximation ADC (SAR ADC) units

Timers:
- Up to 75-ch 16 bit and 8-ch 32 bit Timer Counter Pulse Width Modulator (TCPWM)
- Real Time Clock (RTC)
- Event generation timer

GPIOs:
- Up to 152 programmable GPIOs

Security:
- Embedded eSHE and HSM (on/off option)*

Packages:
- 176/144/100/80/64 LQFP

Temperature Range:
- -40°C to 105°C (S grade)
- -40°C to 125°C (E grade)

*Firmware solution is a combination of Cypress’ security low level drivers and third-party firmware.

PERFORMANCE

Traveo II CYT2B6/2B7/2B8/2BL series is designed to enable faster in-car communication. This series provides higher response and faster communication with embedded CXPI interface and the CAN FD interface.

- 160 MHz Arm® Cortex®-M4F Single
- Up to 8-ch CAN FD, 4-ch CXPI

SECURITY FEATURES

Today’s automobiles integrate multiple electronic control units that are connected through multiple networks. Traveo II CYT2B6/2B7/2B9/2BL series offers advanced security features with the introduction of HSM (Hardware security module) and dedicated Cortex®-M0+ for secure processing. With the embedded flash in dual bank mode, this family of microcontrollers enables advanced features such as updating firmware over the air.

- Crypto accelerator:
  - Embedded eSHE¹ and HSM²
  - Hardware-accelerated cryptography engine
- One Time Programmable Fuses (OTP) to manage product lifecycle
- Secure boot:
  - Arm® Cortex®-M0+ boots from ROM
  - ROM provides root-of-trust
  - Authentication/integrity check of the flash image
- Memory/peripheral protection:
  - Memory protection unit (MPU) and shared memory protection unit (SMPU)
  - Peripheral protection unit (PPU)
- JTAG security

ENHANCED POWER MODES

Traveo II CYT2B6/2B7/2B9/2BL series supports six power modes: Active, Sleep, Low-Power Active, Low-Power Sleep, DeepSleep, and Hibernate (typ. 5 µA). The series also supports cyclic wake-up from DeepSleep to optimize power consumption.

AUTOSAR MCAL³ EMBEDDED PLATFORM

Traveo II CYT2B6/2B7/2B9/2BL series supports relevant versions of AUTOSAR MCAL, including optional microcontroller modules such as CorTst⁴, FlsTst⁵, RamTst⁶, FEE⁷, and HSM Performance Library.

APPLICATIONS

Traveo II CYT2B6/2B7/2B9/2BL series is the ideal solution for body control modules, HVAC, and lighting with up to 4 MB flash.

¹ Enhanced Secure Hardware Extension
² Hardware Security Module
³ Automotive Open System Architecture Microcontroller Abstraction Layer
⁴ Core Test
⁵ Flash Test
⁶ RAM Test
⁷ Flash EEPROM Emulation
**CYT2B6/2B7/2B9/2BL SERIES BLOCK DIAGRAM**

**CYT2B6/2B7/2B9/2BL series**

- System Control
  - Regulators
  - LVD/BOD
  - RC Oscillators
  - PLL/FL
  - Reset
  - WDT/CNV
- Real Time Clock
- Event Generation Timer
- Power Mode Management

**Core Block**

- SWD/TAO/Trace
- SRAM
- Code Flash
- Work Flash
- Boot ROM
- MPU
- PPU
- DMA
- OTP

**Arm® Cortex M4F (Single) FPU**

**Peripheral**

- GPB Smart I/O
- CAN FD
- 16-bit Motor TCPWM
- 16-bit TCPWM
- 32-bit TCPWM
- 12-bit ADC (3 x SAR ADC)

**CYT2B6/2B7/2B9/2BL SERIES PRODUCT LINEUP**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>CPU Freq. (MHz)</th>
<th>Power Supply (V)</th>
<th>Flash (Code + Work)</th>
<th>SRAM (KB)</th>
<th>12 bit ADC (ch)</th>
<th>CAN FD (ch)</th>
<th>CXPI (ch)</th>
<th>SCB (ch)</th>
<th>Security</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYT2B63CA</td>
<td>80</td>
<td>2.7 to 5.5</td>
<td>512 + 64</td>
<td>64</td>
<td>22</td>
<td>3</td>
<td>6</td>
<td></td>
<td>eSHE&amp;HSM</td>
<td>LQFP-64</td>
</tr>
<tr>
<td>CYT2B64CA</td>
<td>160</td>
<td>2.7 to 5.5</td>
<td>1088 + 96</td>
<td>128</td>
<td>22</td>
<td>5</td>
<td>7</td>
<td></td>
<td>eSHE&amp;HSM</td>
<td>LQFP-80</td>
</tr>
<tr>
<td>CYT2B65CA</td>
<td>160</td>
<td>2.7 to 5.5</td>
<td>2112 + 128</td>
<td>256</td>
<td>27</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>eSHE&amp;HSM</td>
<td>LQFP-64</td>
</tr>
<tr>
<td>CYT2B73CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B74CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B75CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B77CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B78CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B93CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B94CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B95CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B97CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2B98CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2BL3CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2BL4CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2BL5CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2BL7CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CYT2BL8CA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**DEVELOPMENT TOOLS**

<table>
<thead>
<tr>
<th>Debugging Device</th>
<th>Evaluation Board</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Hills Software (MULTI®)</td>
<td>TVII-B E Base Board</td>
</tr>
<tr>
<td>Green Hills Software (Green Hills Probe™)</td>
<td>TVII-B E 64-pin CPU Board</td>
</tr>
<tr>
<td>IAR Systems (IAR Embedded Workbench)</td>
<td>TVII-B E 144-pin CPU Board</td>
</tr>
<tr>
<td>IAR Systems (I-jet)</td>
<td>TVII-B E 176-pin CPI Board</td>
</tr>
</tbody>
</table>

**GET STARTED NOW**

To understand how you can transform your Automotive Design Experience, contact your Cypress Sales Representative or write to us at automotive@cypress.com

© 2020 Cypress Semiconductor Corporation. All rights reserved. All other trademarks are the property of their respective owners.

002-29004 Rev.*A