CYPRESS
TRAVEOTM II
CYT2B7 SERIES
MICROCONTROLLERS
For Automotive Body Control

Cypress’ Traveo II CYT2B7 series MCUs are designed for automotive body electronics. These microcontrollers have been built to meet automotive application requirements and are ideal for automobiles of the future.

The Traveo II family of microcontrollers have a whole range of options for you to choose from.

www.cypress.com/traveoII

FEATURES
Traveo II CYT2B7 series offers cutting-edge performance and robust safety features for automotive body applications.

32-bit MCU Core Systems:
• 160 MHz Arm® Cortex®-M4F Single
• 1 MB code flash, 96 KB work flash and 128 KB SRAM and Arm® Cortex®-M0+

Power Supply Voltage:
• 2.7 V to 5.5 V

Connectivity:
• Up to 6-ch CAN FD, 8-ch Serial Communication Block (SCB), 8-ch LIN/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 4-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 to 105°C (S grade)
• -40 to 125°C (E grade)

*Firmware solution available in combination of Cypress Security Low Level Driver and 3rd party firmware

PERFORMANCE
Traveo II CYT2B7 series is designed to enable faster in-car communication. This family of MCUs delivers on the promise of high-performance and robust safety.

• 160 MHz Arm® Cortex®-M4F Single and 1 MB code flash
• Up to 6-ch CAN FD

SECURITY FEATURES
Today’s automobiles integrate multiple electronic control units and they are all connected through the in-vehicle network. Traveo II CYT2B7 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, the family of MCUs fulfills future needs of automobiles 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 CYT2B7 series supports six power modes - Active, Sleep, Low-Power Active, Low-Power Sleep, DeepSleep, and Hybernate (typ. 5 uA). The series also supports cyclic wake-up from DeepSleep to optimize power consumption.

AUTOSAR MCAL³ EMBEDDED PLATFORM
Traveo II CYT2B7 series supports relevant versions of AUTOSAR MCAL, including optional microcontroller modules such as CorTst⁴, FlsTst⁵, RamTst⁶, FEE⁷ and Security LLD⁸.

APPLICATIONS
Traveo II CYT2B7 series is the ideal solution for body control modules, HVAC, and lighting with 1 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
8 Security Low Level Driver
## CYT2B7 SERIES BLOCK DIAGRAM

### CYT2B7 series

<table>
<thead>
<tr>
<th>System Control</th>
<th>Core Block</th>
<th>Peripheral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulators</td>
<td>SWD/JTAG/Trace</td>
<td>GP10 Smart I/O</td>
</tr>
<tr>
<td>LVD/BOD</td>
<td>SRAM</td>
<td>CAN FD</td>
</tr>
<tr>
<td>RC Oscillators</td>
<td>Code Flash</td>
<td></td>
</tr>
<tr>
<td>PLL/FLL</td>
<td>Cortex® M4F (Single) FPU</td>
<td>16 bit Motor TCPWM</td>
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<tr>
<td>Reset</td>
<td>Work Flash</td>
<td></td>
</tr>
<tr>
<td>WDT/CSV</td>
<td>Boot ROM</td>
<td>16 bit TCPWM</td>
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<tr>
<td>Real Time Dock</td>
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<td>32-bit TCPWM</td>
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<tr>
<td>Event Generation Timer</td>
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<td>12-bit ADC (3 x SAR ADC)</td>
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<tr>
<td>Power Mode Management</td>
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### DEVELOPMENT TOOLS

<table>
<thead>
<tr>
<th>Green Hills Software (MULTI®)</th>
<th>Green Hills Software (Green Hills Probe®)</th>
<th>CYTVII-B-E-BB</th>
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</thead>
<tbody>
<tr>
<td>IAR Systems (IAR Embedded Workbench)</td>
<td>IAR Systems (I-jet)</td>
<td>CYTVII-B-E-1M-176-CPU</td>
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<td>CYTVII-B-E-1M-100-CPU</td>
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<td>CYTVII-B-E-1M-SK (IAR support only)</td>
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### CYT2B7 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>SCB (ch)</th>
<th>Security</th>
<th>Package</th>
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<tbody>
<tr>
<td>CYT2B73BA</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>5</td>
<td>eSHE</td>
<td>LQFP-64</td>
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<td>LQFP-100</td>
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<td>eSHE &amp; HSM</td>
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002-21077 Rev.*A