PRODUCT BRIEF

TRAVEO™ T2G CYT3DL

Providing unparalleled excellence for automotive clusters

Infineon releases its second generation TRAVEO™ microcontroller in embedded flash 40 nm technology. It comes back with an increase in graphic performance, memory sizes and connectivity to address the new automotive trends and challenges. CYT3DL offers one of the most scalable safety and graphic microcontroller portfolios. In terms of performance, it offers single core Cortex®-M7 running up to 240 MHz, up to 2 M Bytes embedded VRAM, graphics for up to 1280×480 display resolution on two packages (216-TQFP and 272-BGA). It is consuming below 457 mA in Active mode and 50 uA in Deepsleep mode with 32 KB RAM retention. Its mirrored embedded flash banks offer A/B swap capabilities.

Graphics subsystem supports 2D and 2.5D (perspective warping, 3D effects) graphics rendering up to 24-bit color resolution (RGB). CYT3DL provides one capture engine for video input processing for ITU 656 or parallel RGB/YUV or MIPI CSI-2 input and up to two video output interfaces supporting two displays from parallel RGB, FPD-link single.

Safety is the core know-how of Infineon, and all products provide safety mechanism (including MBIST, ECC Flash/RAM, CRC) to ensure a safety platform supporting ASIL-B ISO 26262. State-of-the-art security with Secure Boot support by a dedicated ARM® Cortex®-M0+ core and security hardware to accelerate cryptographic functions.

In terms of security, this product has an HSM compliant Evita full, ensuring the implementation of future proofed security measures. On top of this, it offers extensive connectivity with 4 CAN FD, 2 LINs, 2 SPIs and new high-speed communicating interfaces such as one 10/100 MHz Ethernet and 2 CXPIs.

The TRAVEO™ CYT3DL offers single chip solution up to 1280×480 display with enhancing 2.5D graphics engine. On-The-Fly rendering mode and hardware decompression enables the most cost-efficient smart Cockpit without high-end 3D SoC or complicated software. And it features a dedicated best-in-class standby mode controller, with its own voltage domain to, not only support low power modes, but also to perform certain operations such as analog measurements, CAN and LIN communications, RTC and basic processing while the rest of microcontroller is in standby.

Key features

- ARM® Cortex®-M7 single CPU up to 240 MHz operation
- Up to 4 MB flash, 128 KB work flash, 384 KB SRAM
- 2.5D graphics engine for up to 1280x480 display, 2 MB VRAM
- Video-out: 2-ch (LVDS, RGB) / Video-in: 1-ch (RGB, MIPI)
- 2x Mixer, 5x Sound Generator, 2x PCM-PWM, DAC
- Up to 1-ch 100 Mbit Ethernet, 4-ch CAN-FD, 12-ch SCB, 2-ch LIN, 2-ch CXPI, and 2-ch SMIF
- Cortex®-M0+ for HSM security
- ISO 26262 ASIL-B
- ISO 21434 compliant

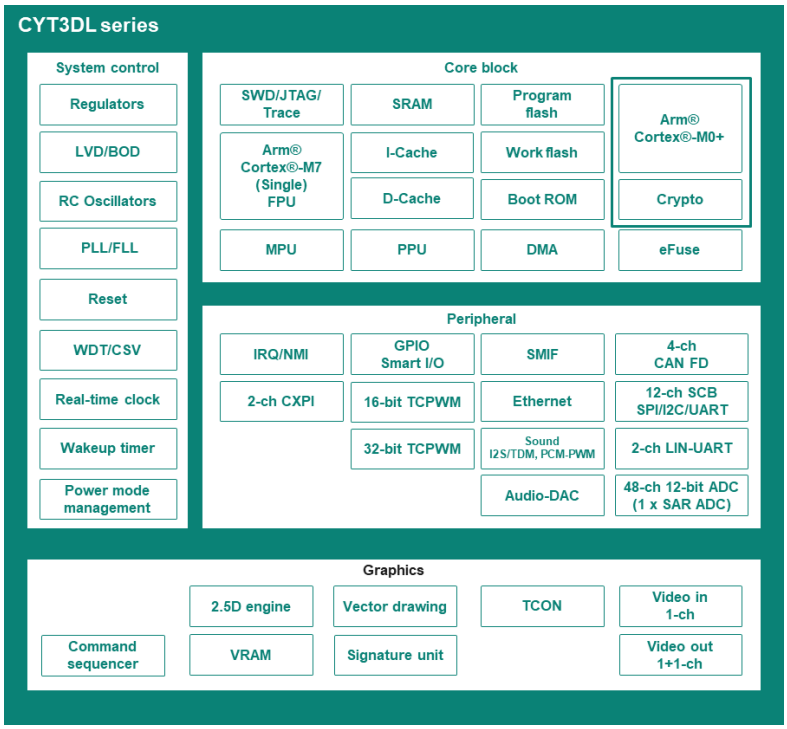
Key benefits

- Single chip graphics solution up to 1280x480 display
- Optimized memory footprint for reduced BOM
- Best-in-class performance enabling ASIL-B designs
- A/B swap software update over the air support
- Best-in-class power consumption
- TRAVEO™ T2G cluster MCU portfolio for a wide range of applications and a high level of software re-use

Key applications

- Instrument cluster / HUD
- 2-wheelers
- Lighting system
- Cost effective cockpit solutions

Block diagram



Product table

Sales Product Name	Core	Package	Code / Work flash [MB/KB]	SRAM [KB]	Graphics / VRAM [MB]
CYT3DLABHBQ1AESGS	Arm® Cortex®-M7 and Cortex®-M0+	216-TEQFP	4 / 128	384	Yes / 2
CYT3DLBBHBQ1BZSGS	Arm® Cortex®-M7 and Cortex®-M0+	272-BGA	4 / 128	384	Yes / 2

Full product table

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