T3

Quad-Core

Vehicle Navigation Processor

Overview

The T3 processor represents Allwinner's latest achievement in the smart automotive sector. The processor is ideal for applications that require 3D graphics, advanced video processing, rich user interfaces, low power consumption and a high level of system integration. The T3 delivers the kind of high level user experience we are used to in portable consumer devices and transitions it into the environment of modern vehicles.

In addition to its high level of performance it also supports driver safety features, a video record feature and an array of inputs and connectivity options for other devices.
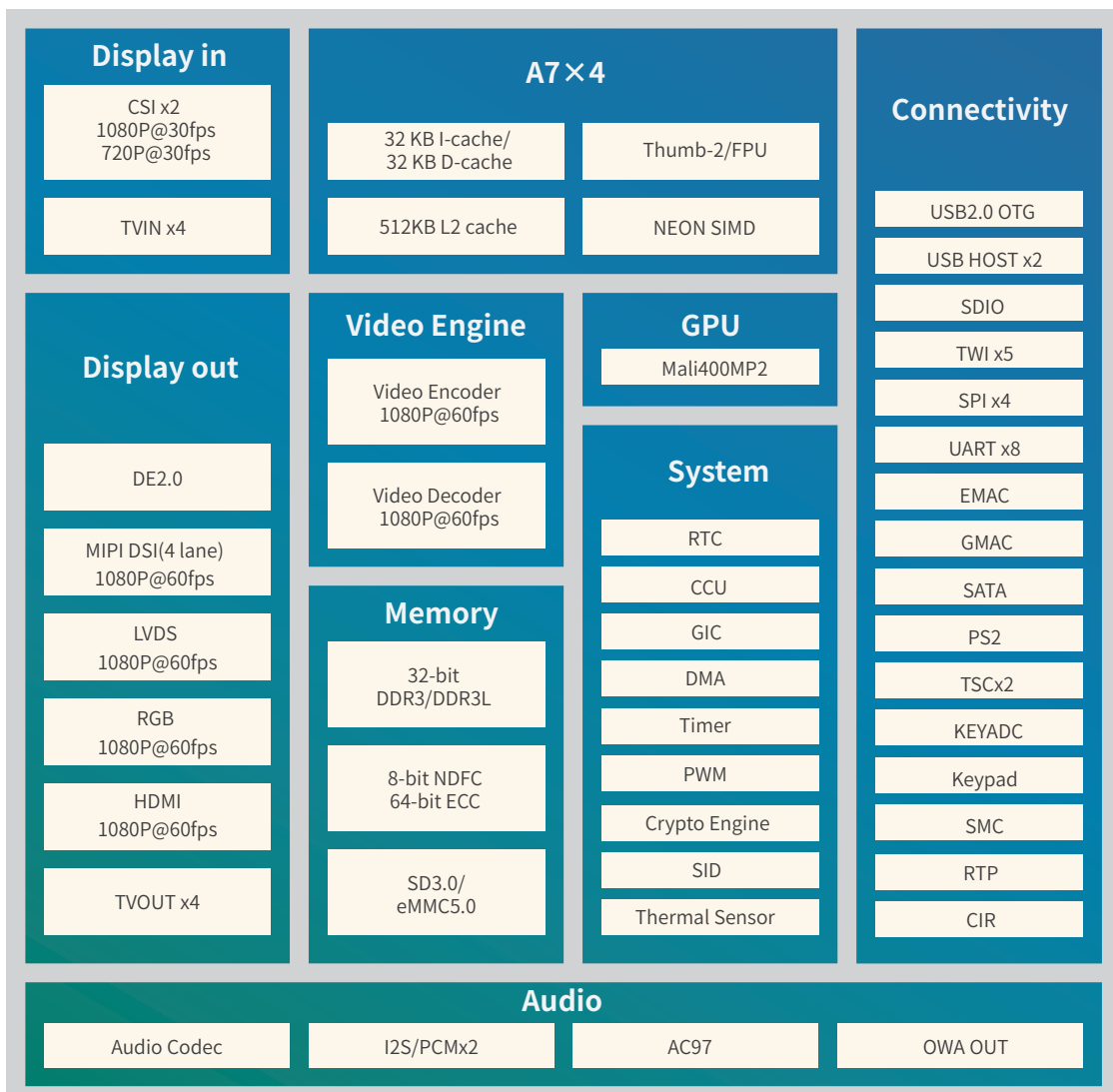
Highlights

Content can be displayed on either 4-lane MIPI DSI displays, an RGB panel or a LVDS panel. TV-out via HDMI V1.4 is also supported.

Integrated audio codec with 24bit/192KHz DAC playback, and supports I2S/PCM interface for connecting to an external audio codec.I2S/PCM interface includes eight channels of TDM with sampling precision up to 32bit/192KHz.

Supports dual CMOS sensor parallel interfaces and 4-channel TVIN , which is capable of executing multi-channel video recording.

High-definition (HD) H.264 video encoder with a resolution of 1080p@45fps.

To reduce the total system cost, the T3 has an extensive range of support for hardware peripherals allowing for an array of configurations, supporting standards such as CAN ,UART, RTP, SPI,CIR,USB2.0 OTG, TWI etc.

Supports Linux3.10 and Android 4.4/6.0 system
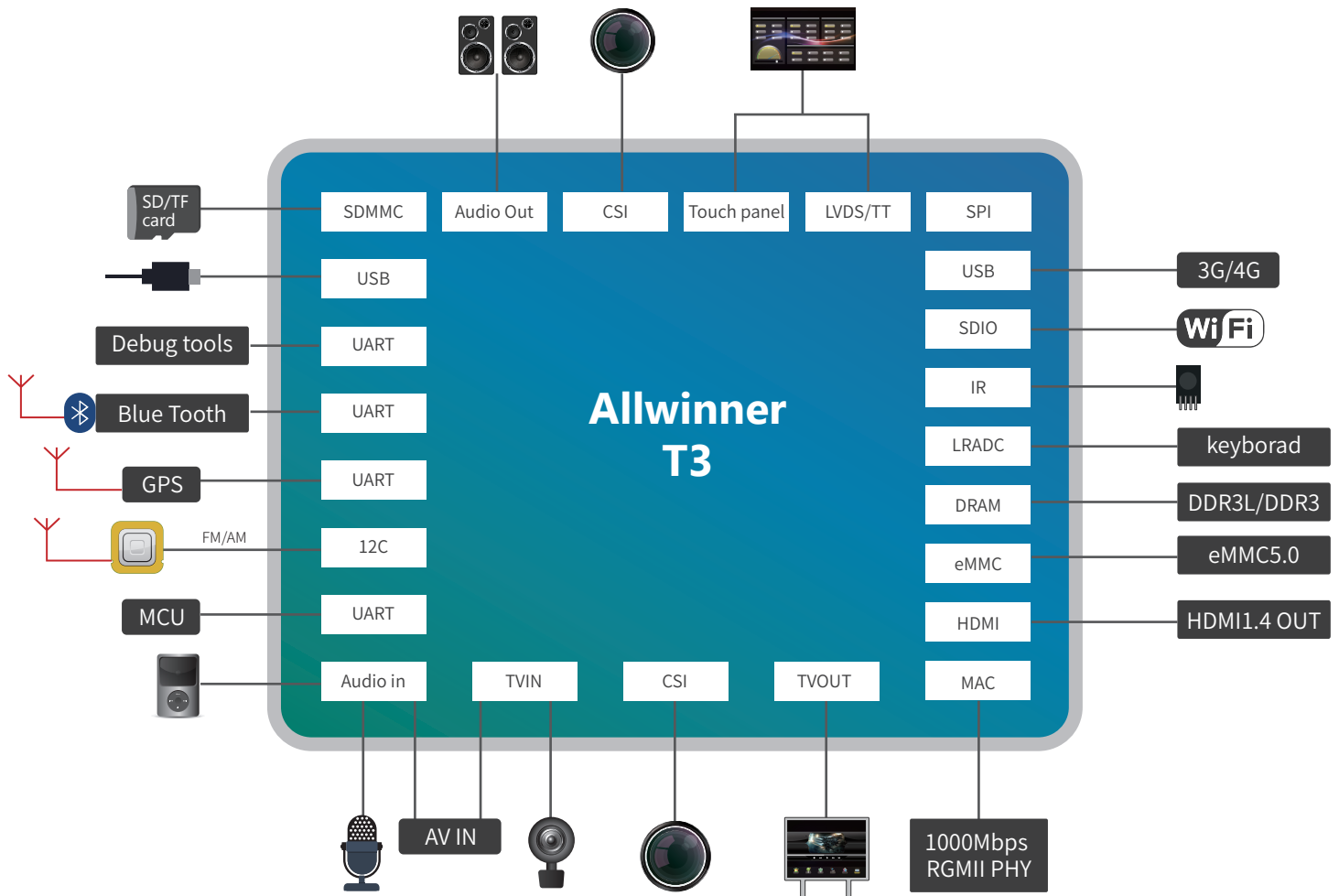
Operating temperature parameters: -40°C- 85°C

Features

CPU	• Quad-core Cortex™-A7
GPU	• Mali400 MP2

Display Out	• 4-lane MIPI DSI displays, or RGB panel, or LVDS panel. • 4-channel TV-out
Display In	• Dual CMOS sensor parallel interfaces • 4-channel TV-in
Video Encoding	• High-definition(HD) H.264 video encoder is up to 1080p@45fps.
Video Decoder	• Video decoup to 1080p@45fps • Supports multi-formats.
Peripherals	• USB x 3/SATA x 1 • UART x 8/SPIding x 4/Smart Card x 1/TS x 2/TWI x 5 • MAC x 2/PS2 x 2/KEYPAD x 1(8 row 8 column)/IR-RX x 2/KEYADCx 2/RTP
Package	• FBGA 468 balls,0.65mm ball pitch, 16x16 mm
Operating Temperature	• -40℃~85℃。

Block Diagram

Application Diagram

Left side connections:
- SD/TF card — SDMMC
- USB
- Debug tools — UART
- Blue Tooth — UART
- GPS — UART
- FM/AM — 12C
- MCU — UART
- Audio in

Top connections:
- Audio Out
- CSI
- Touch panel
- LVDS/TT
- SPI

Center: **Allwinner T3**

Right side connections:
- USB — 3G/4G
- SDIO — Wi Fi
- IR
- LRADC — keyborad
- DRAM — DDR3L/DDR3
- eMMC — eMMC5.0
- HDMI — HDMI1.4 OUT
- MAC — 1000Mbps RGMII PHY

Bottom connections:
- AV IN
- TVIN
- CSI
- TVOUT