

OKI Semiconductor Companion Chip for Intel® Atom™ processor E6xx series ML7213/7223(V)

Product Overview

The ML7213 and ML7223(V) are Input/Output Hub LSIs (IOH) to be connected to Intel® Atom™ processor E6xx series via PCI Express of E6xx series.

The IOHs not only integrate various IOs such as for USB, SATA, SD Card, Video Input, UART, I²S but also support high-speed bus to be connect to an external FPGA to complement missing features with a IOH.

The ML7213 has a built-in SDVO converter so that you could connect to a digital RGB panel directly and economically. Furthermore, high number of I²S and TDM helps your audio-rich designs.

The ML7223(V) supports Giga-bit Ether MAC and IPsec hardware accelerator, and the ML7223V is additionally equipped with echo and noise cancellers which are essential to communication terminals with hands-free operations.



Features

ML7213

- Connected to E6xx via a lane of PCI Express x1.
- Converts E6xx's SDVO signals to digital RGB
- Rich Audio Interfaces : 6 x I²S & 2 x TDM
- Supports video input for a camera connection

ML7223(V)

- Connected to E6xx via 2 lanes of PCI Express x1 with population of real-time network related functions on a lane to secure QoS.
- Supports Giga-bit Ether MAC and IPsec hardware accelerator.
- Converts E6xx's SDVO signals to digital RGB
- Supports video input for a camera connection
- V-version (ML7223V) offers echo and noise cancellers for hands-free talk.

Functions

- Operating voltages : 3.3V, 2.5V, 1.2V
- Operating Temperature : -40 to +85°C
- Package : PBGA404
- Functions
 - PCI Express® 1.1 x1
 - USB 2.0 host
 - USB 2.0 host/device switchable (Only with ML7213)
 - SD host (SDIO)
 - Serial ATA II
 - Gigabit Ethernet (MAC) (Only with ML7223[V])
 - Media LB® (Only with ML7213)
 - Security (3DES,AES,SHA1/265/MD5) (Only with ML7223[V])
 - Acoustic / Line Echo, Noise Canceller (Only with ML7223V)
 - BT656/RAW input
 - SDVO input with digital RGB output (Only with ML7213)
 - UART, SPI, I²C, I²S, TDM (support McASP)
 - GPIO, DMA

Application Examples

- In-Vehicle Infotainment Systems
- Car Navigations
- IP Mediaphones
- Digital Signage
- Factory Automation Equipments
- Industrial PCs
- Etc.

Block Diagrams

