LEC-iMX6

SMARC® Short Size Module with Freescale i.MX6 Solo, DualLite, Dual or Quad Processor

Features

- Freescale SoC i.MX6 ARM Cortex A9 Solo, DualLite, Dual or Quad processor
- Integrated 2D/3D graphics processors, 3D 1080p video processing, power management
- Onboard DDR3L/1067 system memory from 512 MB to 2 GB
- Supports up to 64 GB eMMC, 1x SD/MMC, 1x SATA 3Gb/s
- Extreme Rugged operating temperature: -40°C to +85°C

Specifications

- **Core System**

  CPU
  Freescale i.MX6 Solo, DualLite, Dual or Quad processor
  i.MX6 Quad, 4 cores, 800 MHz, 1 MB L2 cache, 3 displays, 1x SATA
  i.MX6 Dual, 2 cores, 800 MHz, 1 MB L2 cache, 3 displays, 1x SATA
  i.MX6 DualLite, 2 cores, 800 MHz, 512 kB L2 cache, 1 display, no SATA
  i.MX6 Solo, 1 core, 800 MHz, 512 kB L2 cache, 1 display, no SATA

  Memory
  Onboard DDR3L-1066 system memory from 512 MB to 2 GB

  Boot Loader
  U-Boot boot loader

  L2 Cache
  From 512 kB to 1 MB

  SEMA Board Controller
  Supports: Voltage/Current monitoring, Power Sequencing, Logistics and Forensic
  Information, Flat Panel Control, I²C Bus Control, GPIO Control, User Flash, Failsafe
  BIOS (dual BIOS), Watchdog Timer and Fan Control

  Debug Headers
  JTAG debug interface on test-points

- **Ethernet**

  Interface
  10/100/1000 GbE

- **Audio**

  Audio Codec
  Located on carrier

  Interface
  S/PDIF

- **Camera**

  Serial
  MIPI CSI camera, 2 lanes

  Parallel
  PCAM, 10-bit

- **I/O Interfaces**

  PCIe
  1x PCIe x1

  USB
  2x USB 2.0 host, 1x USB OTG

  SATA
  1x SATA 3Gb/s

  Flash Memory
  Up to 64 GB eMMC (custom option)

  GPIO
  12x GPIO with interrupt

  SDIO
  1x SDIO

  SPI
  2x SPI

  I²C
  3x I²C

  I²S
  1x I²S

  S/PDIF
  1x S/PDIF

  WDT
  1x WDT

  CAN
  2x CAN

  Management
  Battery and System Management

Specifications

- **Graphics**

  LCD
  Parallel LCD 24-bit

  LVDS
  LVDS single channel 24-bit

  HDMI
  HDMI 1.4a

- **Graphics**

  High-performance video processing unit (VPU), supports SD and HD-level video decoders and SD-level encoders as a multi-standard video codec engine, as well as several important video processing functions, such as rotation and mirroring

- **Mechanical and Environmental**

  Form Factor
  Form Factor
  SMARC Specifications v1.0

  Dimension
  SMARC full size module, 82 mm x 80 mm

  Operating Temperature
  Standard: 0°C to +60°C
  Extreme Rugged: -40ºC to +85ºC

  Humidity
  5-90% RH operating, non-condensing
  5-95% RH storage (and operating with conformal coating)

  HALT
  Thermal Stress, Vibration Stress, Thermal Shock and Combined Test

- **Operation System**

  Standard Support
  Windows Embedded Compact 7, Linux

  Extended Support (BSP)
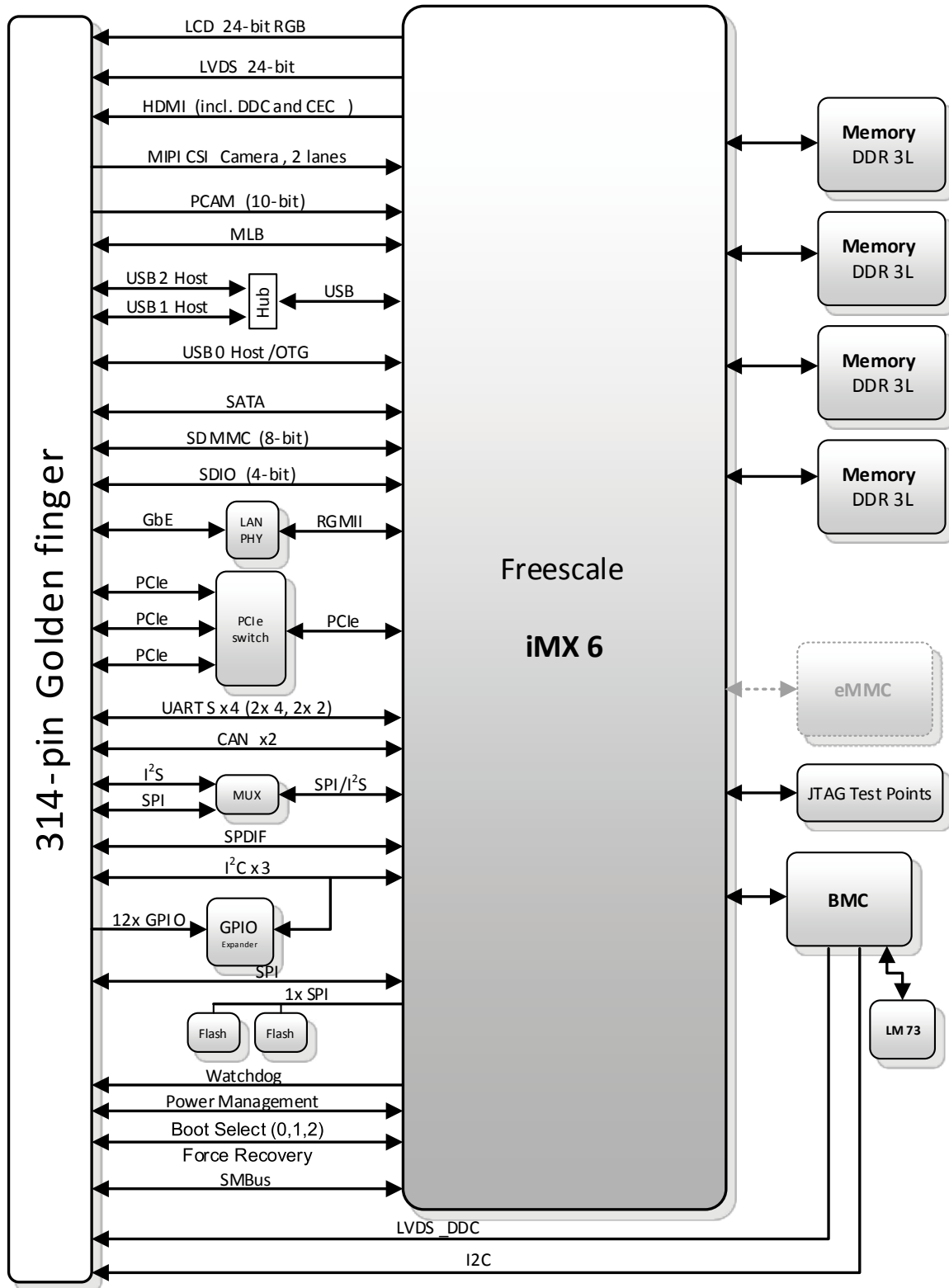 Android, VxWorks, QNX

- **Intelligent Middleware**

  SEMA®
  Local management, control of embedded computer systems Extended EAPI for monitoring, controlling and analytics applications Multiple OS support and across platforms (x86, ARM)

Functional Diagram

Ordering Information

- **LEC-iMX64-2G-8G-ER**
  SMARC Short Module with Freescale i.MX6, Quad, 2 GB RAM,
  8 GB eMMC, Extreme Rugged operating temperature:
  -40°C to +85°C

- **LEC-iMX62-2G-8G-ER**
  SMARC Short Module with Freescale i.MX6, Dual, 2 GB RAM,
  8 GB eMMC, Extreme Rugged operating temperature:
  -40°C to +85°C

- **LEC-iMX62-1G-4G-ER**
  SMARC Short Module with Freescale i.MX6, Dual, 1 GB RAM,
  4 GB eMMC, Extreme Rugged operating temperature:
  -40°C to +85°C

- **LEC-iMX62L-2G-8G-ER**
  SMARC Short Module with Freescale i.MX6, DualLite, 2 GB RAM,
  8 GB eMMC, Extreme Rugged operating temperature:
  -40°C to +85°C

- **LEC-iMX61-1G-8G-ER**
  SMARC Short Module with Freescale i.MX6, Solo, 1 GB RAM,
  8 GB eMMC, Extreme Rugged™ operating temperature:
  -40°C to +85°C

- **LEC-iMX6-HS2**
  Heatspreader for LEC-iMX6 Solo/Dual Lite

*other configurations by request

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