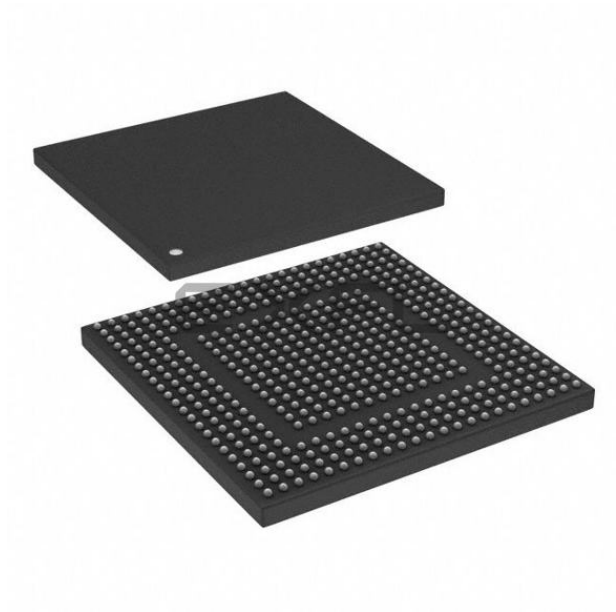

**Welcome to E-XFL.COM**

## Understanding Embedded - Microprocessors

Embedded microprocessors are specialized computing chips designed to perform specific tasks within an embedded system. Unlike general-purpose microprocessors found in personal computers, embedded microprocessors are tailored for dedicated functions within larger systems, offering optimized performance, efficiency, and reliability. These microprocessors are integral to the operation of countless electronic devices, providing the computational power necessary for controlling processes, handling data, and managing communications.

## Applications of Embedded - Microprocessors

Embedded microprocessors are utilized across a broad spectrum of applications, making them indispensable in

| Details | |
|---|---|
| Product Status | Active |
| Core Processor | ARM1136JF-S |
| Number of Cores/Bus Width | 1 Core, 32-Bit |
| Speed | 400MHz |
| Co-Processors/DSP | Multimedia; GPU, IPU, MPEG-4, VFP |
| RAM Controllers | DDR |
| Graphics Acceleration | Yes |
| Display & Interface Controllers | Keyboard, Keypad, LCD |
| Ethernet | - |
| SATA | - |
| USB | USB 2.0 (3) |
| Voltage - I/O | 1.8V, 2.0V, 2.5V, 2.7V, 3.0V |
| Operating Temperature | -40°C ~ 85°C (TA) |
| Security Features | Random Number Generator, RTIC, Secure Fusebox, Secure JTAG, Secure Memory |
| Package / Case | 473-LFBGA |
| Supplier Device Package | 473-LFBGA (19x19) |
| Purchase URL | https://www.e-xfl.com/product-detail/nxp-semiconductors/mcimx31lcvmn4dr2 |

- MCIMX31Chip Errata (order number MCIMX31CE)

The Freescale manuals are available on the Freescale Semiconductors Web site at http://www.freescale.com/imx. These documents may be downloaded directly from the Freescale Web site, or printed versions may be ordered. ARM documentation is available from http://www.arm.com.

# 7 Revision History

Table 65 summarizes revisions to the MCIMX31C/MCIMX31LC Data Sheet since the release of Rev. 3.

Table 65. Revision History of the MCIMX31C/MCIMX31LC Data Sheet

| Rev | Location | Change |
|---|---|---|
| 4 | Table 7, "Operating Ranges," on page 12 | Operating Junction Temperature Range Max: changed from 100 to 105. |
| 4.1 | Table 1, "MCIMX31C and MCIMX31LC Ordering Information," on page 3 | Added new part numbers MCIMX31CVMN4D and MCIMX31LCVMN4D. |
| 4.1 | Section 1.2.1, “Feature Differences Between TO2.0 and TO 2.0.1 | Added new section describing differences between silicon revisions. |
| 4.2 | Table 1, "MCIMX31C and MCIMX31LC Ordering Information," on page 3 | Added new part numbers MCIMX31CJMN4C and MCIMX31LCJMN4D and a footnote. |
| 4.3 | Table 1, "MCIMX31C and MCIMX31LC Ordering Information," on page 3 | Added new part number MCIMX31CJMN4D. |