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## 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 | Obsolete |
| Core Processor | PowerPC |
| Number of Cores/Bus Width | 1 Core, 32-Bit |
| Speed | 350MHz |
| Co-Processors/DSP | - |
| RAM Controllers | - |
| Graphics Acceleration | No |
| Display & Interface Controllers | - |
| Ethernet | - |
| SATA | - |
| USB | - |
| Voltage - I/O | 2.5V, 3.3V |
| Operating Temperature | 0°C ~ 105°C (TA) |
| Security Features | - |
| Package / Case | 255-BBGA, FCBGA |
| Supplier Device Package | 255-FCPBGA (21x21) |
| Purchase URL | https://www.e-xfl.com/product-detail/nxp-semiconductors/mpc745bpx350le |

# 9 Document Revision History

Table 19 provides a revision history for this hardware specification.

Table 19. Document Revision History

| Revision | Date | Substantive Change(s) |
|---|---|---|
| 8 | 2/8/2006 | Changed processor descriptor from ‘B’ to ‘C’ for 350 MHz devices and increased power specifications for full-power mode in Table 7. |
| 7 | 4/05/2005 | Removed phrase “for the ceramic ball grid array (CBGA) package” from Section 8.8; this information applies to devices in both CBGA and PBGA packages. |
| | | Figure 24—updated COP Connector Diagram to recommend a weak pull-up resistor on TCK. |
| | | Table 20—added MPC745BPXLE, MPC755BRXLE, MPC755BPXLE, MPC755CVTLE, MPC755BVTLE and MPC745BVTLE part numbers. These devices are fully addressed by this document. |
| | | Corrected Revision Level in Table 23: Rev E devices are Rev 2.8, not 2.7. |
| | | Added MPC755CRX400LE and MPC755CPX400LE to devices supported by this specification in Table 20. |
| | | Removed “Advance Information” from title block on page 1. |
| 6.1 | 1/21/2005 | Updated document template. |
| 6 | — | Removed 450 MHz speed grade throughout document. These devices are no longer supported for new designs; see Section 1.10.2 for more information. |
| | | Relaxed voltage sequencing requirements in Notes 3 and 4 of Table 1. |
| | | Corrected Note 2 of Table 7. |
| | | Changed processor descriptor from ‘B’ to ‘C’ for 400 MHz devices and increased power specifications for full-power mode in Table 7. XPC755Bxx400LE devices are no longer produced and are documented in a separate part number specification; see Section 1.10.2 for more information. |
| | | Increased power specifications for sleep mode for all speed grades in Table 7. |
| | | Removed ‘Sleep Mode (PLL and DLL Disabled)—Typical’ specification from Table 7; this is no longer tested or characterized. |
| | | Added Note 4 to Table 7. |
| | | Revised L2 clock duty cycle specification in Table 11 and changed Note 7. |
| | | Corrected Note 3 in Table 20. |
| | | Replaced Table 21 and added Tables 22 and 23. |
| 5 | — | Added Note 6 to Table 10; clarification only as this information is already documented in the MPC750 RISC Microprocessor Family User’s Manual. |
| | | Revised Figure 24 and Section 1.8.7. |
| | | Corrected Process Identifier for 450 MHz part in Table 20. |
| | | Added XPC755BRXnnnTx series to Table 21. |