

# MPC7410 RISC Microprocessor Hardware Specifications Addendum for the MPC7410TRX $nnn$ LE Series

This document describes part-number-specific changes to recommended operating conditions and revised electrical specifications, as applicable, from those described in the *MPC7410 RISC Microprocessor Hardware Specifications* (Document No. MPC7410EC).

Specifications provided in this document supersede those in the *MPC7410 RISC Microprocessor Hardware Specifications*, Rev. 1 or later, for the part numbers listed in [Table A](#) only. Specifications not addressed herein are unchanged. Because this document is frequently updated, refer to <http://www.freescale.com> or to your Freescale sales office for the latest version.

Note that headings and table numbers in this document are not consecutively numbered. They are intended to correspond to the heading or table affected in the general hardware specification.

Part numbers addressed in this document are listed in [Table A](#). For more detailed ordering information [Table 17](#)

*Freescale Part Numbers Affected:*

*MPC7410TRX400LE*  
*MPC7410TRX450LE*  
*MPC7410TRX500LE*

**Table A. Part Numbers Addressed by this Data Sheet**

| Freescale Part Number | Operating Conditions |                 |                     |                      | Significant Differences from Hardware Specification  |
|-----------------------|----------------------|-----------------|---------------------|----------------------|--|
|                       | CPU Frequency (MHz)  | V <sub>DD</sub> | T <sub>J</sub> (°C) | OV <sub>DD</sub> (V) |  |
| MPC7410TRX500LE       | 500                  | 1.8 V ±100 mV   | -40 to 105          | 1.8/2.5/3.3          | Extended temperature range. For all DC/AC specifications not mentioned in this document, please refer to the MPC7410RX500LE specifications in the <i>MPC7410 RISC Microprocessor Hardware Specifications</i> . |
| MPC7410TRX450LE       | 450                  | 1.8 V ±100 mV   | -40 to 105          | 1.8/2.5/3.3          | Extended temperature range. For all DC/AC specifications not mentioned in this document, please refer to the MPC7410RX450LE specifications in the <i>MPC7410 RISC Microprocessor Hardware Specifications</i> . |
| MPC7410TRX400LE       | 400                  | 1.8 V ±100 mV   | -40 to 105          | 1.8/2.5/3.3          | Extended temperature range. For all DC/AC specifications not mentioned in this document, please refer to the MPC7410RX400LE specifications in the <i>MPC7410 RISC Microprocessor Hardware Specifications</i> . |

## 4.1 DC Electrical Characteristics

Table 3 provides the recommended operating conditions for the MPC7410 part numbers described herein.

**Table 3. Recommended Operating Conditions**

| Characteristic           | Symbol         | Recommended Value | Unit | Notes |
|--------------------------|----------------|-------------------|------|-------|
| Die-junction temperature | T <sub>J</sub> | -40 to 105        | °C   |       |

**Note:** See *MPC7410 RISC Microprocessor Hardware Specifications*.

## 9 Document Revision History

Table 16 provides a revision history for this document.

**Table 16. Document Revision History**

| Revision | Date      | Substantive Chagnes(s)   |
|----------|-----------|--|
| 1.1      | 4/20/2005 | Document template update.  |
|          |           | Document ID change from MPC7410TRXLEPNS for Part Number Specification to MPC7410ECS06AD for Hardware Specification Addendum.                     |
| 1        | 10/2002   | Minor Formatting.  |
| 0        |           | Initial release.<br>Note that this part number specification replaces the MPC7410RXnnnTE part number specification (Order No. MPC7410RXnnnTE/D). |

## 10 Ordering Information

### 10.1 Part Numbers Addressed by this Specification

Table 17 provides the ordering information for the MPC7410 part described in this document.

**Table 17. Part Marking Nomenclature**

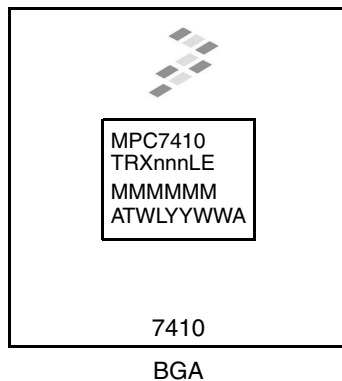
| Product Code | Part Identifier | Process Descriptor | Package   | Processor Frequency <sup>1</sup> | Application Modifier | Revision Level          |
|--------------|-----------------|--------------------|-----------|----------------------------------|----------------------|-------------------------|
| MPC          | 7410            | T: -40 to 105°C    | RX = CBGA | 400<br>450<br>500                | L: 1.8 V ±100 mV     | E: 1.4; PVR = 800C 1104 |

**Note:**

- 1.Processor core frequencies supported by parts addressed by this specification only. Parts addressed by other specifications may support other maximum core frequencies.

## 10.3 Part Marking

Parts are marked as the example shown in [Figure 26](#).



**Notes:**

nnn is the speed grade of the part.

MMMMMM is the 6-digit mask number.

ATWLYYWWA is the traceability code.

CCCCC is the country of assembly. This space is left blank if parts are assembled in the United States.

**Figure 26. Part Marking for BGA Device**

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