

MPC8241 Integrated Processor Hardware Specifications Addendum for the MPC8241TXXnnnx Series

This document describes part-number-specific changes to recommended operating conditions and revised electrical specifications, as applicable, from those described in the general *MPC8241 Integrated Processor Hardware Specifications* (MPC8241EC). The MPC8241 combines a MPC603e PowerPC™ core with a PCI bridge.

Specifications provided in this document supersede those in the *MPC8241 Integrated Processor Hardware Specifications*, Rev. 7 or later, for the part numbers listed in [Table A](#) only. Specifications not addressed herein are unchanged. Because this document is frequently updated, visit the website listed on the back cover of the document.

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 see [Section 9, “Ordering Information.”](#)

Freescale Part Numbers Affected:

MPC8241TZQ166D

MPC8241TZQ200D

Table A. Part Numbers Addressed by This Addendum

Freescale Part Number	Operating Conditions			Significant Differences from Hardware Specification
	CPU Frequency (MHz)	V _{DD}	T _J (°C)	
MPC8241TZQ166D	166	1.8 V ± 100 mV	-40° to 105°C	Extended temperature range of standard part by changing minimum temperature from 0°C to -40°C.
MPC8241TZQ200D	200			

4.1.2 Recommended Operating Conditions

Table 2 provides the recommended operating conditions for the MPC8241 part numbers described herein.

Table 2. Recommended Operating Conditions

Characteristic	Symbol	Recommended Value	Unit
Die-junction temperature	T _J	-40 to 105	°C

Note: These are the recommended and tested operating conditions. Proper device operation outside of these conditions is not guaranteed.

9 Ordering Information

9.1 Part Numbers Addressed by This Document

Table 21 provides the ordering information for the MPC8241 parts described in this document.

Table 21. Part Marking Nomenclature ¹

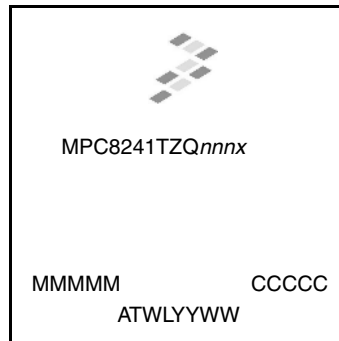
MPC	nnnn	T	xx	nnn	x	
Product Code	Part Identifier	Process Descriptor	Package ¹	Processor Frequency ² (MHz)	Revision Level	Processor Version Register Value
MPC	8241	T = Extended Temperature Spec. -40° to 105°C	ZQ = thick substrate and thick mold cap PBGA (two layers)	166, 200 MHz @ 1.8 V ± 100 mV	D:1.4 Rev. ID:0x14	0x80811014

Notes:

1. This part's marking will conform to Figure 34. This table details the specifications of the device, not the marking.
2. Processor core frequencies supported by parts addressed by this addendum only. Parts addressed by other hardware specifications addendums may support other maximum core frequencies.

9.3 Part Marking

Parts are marked as in the example shown in [Figure 34](#).



Notes:

MMMMM is the 5-digit mask number.

ATWLYYWW is test traceability code.

CCCCC is the country code.

Figure 34. Freescale Part Number Key

Document Revision History

Table B provides a revision history for this part number specification.

Table B. Document Revision History

Revision	Date	Substantive Change(s)
2.2	1/4/2005	Changed format of Table A to be more in line with format for Addendum documents.. Updated table number for Table 21 to be consistent with hardware specifications document.
2.1	11/14/2005	Table .A, "Part Numbers Addressed by MPC8241TXXPNS Series"—Updated format of part numbering table. Corrected all references from ZP to ZQ as the Thick substrate-Thick mold version of packaging is what is available to customers for ordering. Updated revision of part available from Rev B to Rev D. Removed reference to a 266 MHz part since it is not offered as an extended temperature part. Created Section 9.3 for Part marking. Figure 34, "Freescale Part Number Key"—Replaced with latest part marking format.
2	8/29/2005	Removed all references to "ZP" option as it is not offered on the market. Changed document ID to MPC8241ECS01AD for a Hardware Specification Addendum. The old document ID was MPC8241TXXPNS for a Part Number Specification. Document title changed to <i>MPC8241 RISC Microprocessor Hardware Specifications Addendum for the MPC8241TXXnnx Series</i> from <i>MPC8241 Part Number Specification for the XPC8241TXXnnx Series</i> . Changed product code from XPC to MPC.
1	—	Updated part listing on first page and in Table A. Table A—Added 266 MHz part to list of parts offered for extended temperature offerings. Also, added Processor Version Number column to table. Updated list of extended temperature parts. Section 1.9—Updated part marking format and package description offerings.
0	—	Initial release.

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

THIS PAGE INTENTIONALLY LEFT BLANK

How to Reach Us:

Home Page:

www.freescale.com

email:

support@freescale.com

USA/Europe or Locations Not Listed:

Freescale Semiconductor
Technical Information Center, CH370
1300 N. Alma School Road
Chandler, Arizona 85224
(800) 521-6274
480-768-2130
support@freescale.com

Europe, Middle East, and Africa:

Freescale Halbleiter Deutschland GmbH
Technical Information Center
Schatzbogen 7
81829 Muenchen, Germany
+44 1296 380 456 (English)
+46 8 52200080 (English)
+49 89 92103 559 (German)
+33 1 69 35 48 48 (French)
support@freescale.com

Japan:

Freescale Semiconductor Japan Ltd.
Headquarters
ARCO Tower 15F
1-8-1, Shimo-Meguro, Meguro-ku
Tokyo 153-0064, Japan
0120 191014
+81 3 5437 9125
support.japan@freescale.com

Asia/Pacific:

Freescale Semiconductor Hong Kong Ltd.
Technical Information Center
2 Dai King Street
Tai Po Industrial Estate,
Tai Po, N.T., Hong Kong
+800 2666 8080
support.asia@freescale.com

For Literature Requests Only:

Freescale Semiconductor
Literature Distribution Center
P.O. Box 5405
Denver, Colorado 80217
(800) 441-2447
303-675-2140
Fax: 303-675-2150
LDCForFreescaleSemiconductor
@hibbertgroup.com

Information in this document is provided solely to enable system and software implementers to use Freescale Semiconductor products. There are no express or implied copyright licenses granted hereunder to design or fabricate any integrated circuits or integrated circuits based on the information in this document.

Freescale Semiconductor reserves the right to make changes without further notice to any products herein. Freescale Semiconductor makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Freescale Semiconductor assume any liability arising out of the application or use of any product or circuit, and specifically disclaims any and all liability, including without limitation consequential or incidental damages. "Typical" parameters which may be provided in Freescale Semiconductor data sheets and/or specifications can and do vary in different applications and actual performance may vary over time. All operating parameters, including "Typicals" must be validated for each customer application by customer's technical experts. Freescale Semiconductor does not convey any license under its patent rights nor the rights of others. Freescale Semiconductor products are not designed, intended, or authorized for use as components in systems intended for surgical implant into the body, or other applications intended to support or sustain life, or for any other application in which the failure of the Freescale Semiconductor product could create a situation where personal injury or death may occur. Should Buyer purchase or use Freescale Semiconductor products for any such unintended or unauthorized application, Buyer shall indemnify and hold Freescale Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that Freescale Semiconductor was negligent regarding the design or manufacture of the part.

Freescale™ and the Freescale logo are trademarks of Freescale Semiconductor, Inc. The PowerPC name is a trademark of IBM Corp. and is used under license. All other product or service names are the property of their respective owners.

© Freescale Semiconductor, Inc., 2006.