

PROCESS CHANGE NOTIFICATION PCN0808

WIRE-BOND DIAMETER REDUCTION FOR SELECTED TQFP PACKAGES

Change Description

Altera is implementing bond wire diameter reduction from 1.0 mil to 0.8 mil on product lines assembled in the TQFP package. This change will be implemented on selected MAX[®] CPLD and MAX II CPLD product lines.

Recommended Action

No action is required as a result of this change.

Reason for Change

Altera is implementing this change in order to be consistent with current assembly manufacturing practices. The 0.8 mil bond wire is defined as standard technology and is used in high-volume production by our assembly vendors. This change improves the availability of supply and the overall product life.

Products Affected

The product lines affected by this change are listed in Table 1. A list of ordering part numbers is included in Appendix 1. The products will transition to the 0.8 mil bond-wires as the current inventory is consumed.

Table 1: Affected Product Lines

Product Family	Package Type	Pin Count	Product Line	Sample Availability (1)	Product Transition
			EPM7032AE	Now	Dec 2008
		T44	EPM7064AE	Now	Dec 2008
		144	EPM3032A Now	Dec 2008	
			EPM3064A	Now	Dec 2008
	TQFP	T100	EPM7064AE	Now	Dec 2008
			EPM7128AE	Now	Dec 2008
MAX CPLD			EPM3064A	Now	Dec 2008
			EPM3128A	Now	Dec 2008
			EPM7128AE Now EPM7256AE Now	Now	Dec 2008
		T144		Now	Dec 2008
		1144	EPM3128A	EPM3128A Now EPM3256A Now	Dec 2008
			EPM3256A		Dec 2008
	TQFP	T100	EPM570	Now	Dec 2008
MAX II CPLD			EPM240	Now	Dec 2008
			EPM570G	Now	Dec 2008
			EPM240G	Now	Dec 2008

For device samples please visit http://www.samplecomponents.com/scripts/SampleCenter.dll?Altera

Product Traceability and Transition Dates

This change will be implemented in December 2008. Customers may receive products with this change beginning with a date-code marking of 0843 or later on the top of the package. See Figure 1. The 0843 date-code marking indicates the earliest date that the new material may be used for any of the affected devices. However, initial samples may have an earlier date-code marking.

Figure 1. Date-Code Marking

Altera Date-Code Marking Format $A \ X\beta Z\alpha\alpha 0843T$

Qualification Data

Qualification data meets Altera's quality and reliability requirements. Qualification data is summarized in Table 2.

Table 2. Summary of Qualification Data

Product Family	Product Line	Representative Packages	Qualification Test	Readout	Results
			PCL 3 + Temp Cycle "B" (-55°C to 125°C)	1000 cyc	0 /80
			High Temp Bake @ 150° C	1000 hrs	0 /79
MAX® CPLD	CPLD EPM7256AE T144	T144	PCL 3 + HAST (130°C/85%RH)	96 hrs	0 /80
			PCL 3 + Autoclave	96 hrs	0 /80
		Life Test	1000 hrs	0 /25	
			PCL 3 + Temp Cycle "B" (-55°C to 125°C)	700 cyc	0 55
MAN® H CDI D	ED1 4570	771.00	High Temp Bake @ 150° C	500 hrs	0 /55
MAX [®] II CPLD	EPM570	T100	PCL 3 + HAST (130°C/85%RH)	96 hrs	0 /54
			PCL 3 +Autoclave	96 hrs	0 /55

Contact

For more information, please contact Altera Customer Quality Engineering at <u>customerquality@altera.com</u>.

In accordance with JESD46-C, this change is deemed acceptable to the customer if no acknowledgement is received within 30 days from this notification.

Revision History

Date	Rev	Description
09/04/2008	1.0.0	Initial Release

Appendix 1. Affected Ordering Part Numbers

PM7032AETC44-10	EPM7032AETA44-10N	EPM7128AETA100-10N	EPM3128ATC144-10	EPM240GT100C3
EPM7032AETC44-10N				
EPM7032AETC44-4				
EPM7032AETC44-AN				
EPM7032AETC44-7N				
EPM7032AETC44-7N				
EPM7032AET144-7				
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EPM7064AETC44-10	FPM7064AFTA44-10N	FPM3064ATC100-10	FPM3256ATC144-10	
EPM7064AETC44-10N EPM3064ATC100-4 EPM3256ATC144-10N EPM240GT100ISRR EPM7064AETC44-4 EPM306AATC100-4N EPM3256ATC144-7 EPM306ATC100-7 EPM3256ATC144-7N EPM306AATC100-7N EPM3256ATC144-7N EPM306AATC100-7N EPM3256ATC144-10 EPM570GT100C3N EPM7064AETC44-7N EPM306AAT1100-10 EPM3256AT1144-10 EPM570GT100C4N EPM570GT100C4N EPM7064AET144-7AA EPM306AAT1100-10 EPM3256AT1144-10N EPM570GT100C4N EPM570GT100C4N EPM7064AET144-7AA EPM3128ATC100-10 EPM240T100C3 EPM570GT100C5N EPM3128ATC100-10N EPM240T100C3 EPM570GT100C5N EPM3032ATC44-10 EPM3128ATC100-5N EPM240T100C3N EPM570GT100ISN EPM570GT100ISN EPM3032ATC44-40 EPM3128ATC100-5N EPM240T100C3T EPM570GT100ISN EPM3032ATC44-4N EPM3128ATC100-7N EPM240T100C4N EPM570GT100ISNR EPM3032ATC44-7N EPM3128ATC100-7N EPM240T100C4N EPM570GT100ISRR EPM570GT100C4N EPM570GT100ISRR EPM3032ATC44-10N EPM3128ATC100-10N EPM240T100C4N EPM570GT100ISRR EPM570GT100C5A EPM240T100C5A EPM302ATMA				
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