



CUSTOMER ADVISORY ADV0501

Implementing Pb-Free Marking Codes and Indication on Labels

Change Description:

Altera will implement the RoHS compliant Pb-free eN category code device marking and revise the moisture-barrier bag and shipping-box label to contain eN category codes and related handling precautions in accordance with JEDEC Standard JESD-97. This change is only applicable to devices classified as Pb free.

The addition of an eN category code marking, in accordance with JEDEC Standard JESD-97, will be marked next to the lot number and trace code markings currently seen on the device. This eN code will denote the composition of the Pb-free lead finish or solder ball used on the device. Altera will be using following eN codes:

E code	Composition
e1	SnAgCu
e3	Sn
e4	Preplated (NiPdAu)

The moisture-barrier bag and shipping-box label will now include additional items, such as the eN category, maximum safe-temperature ratings, and rework-handling precautions.

Appendix 1-3 illustrates an example of this additional marking and the revised labels.

This change will not affect the form, fit or function of the device.

Reason for Change:

Altera is adopting JEDEC's standard **JESD97 – Marking, Symbols, and Labels for Identification of Lead (Pb) Free Assemblies, Components and Devices** on its RoHS compliant Pb-free devices to support industry efforts toward environmentally friendly products.

Products Affected:

This change is applicable to all Pb-free devices offered by Altera. However, due to space limitations, the marking will be applicable to all Altera® Pb-free device packages with a body size of 17 x 17 mm and greater. The revised label will be applicable to all Pb-free devices irrespective of package body size.

Product Traceability and Transition Dates:

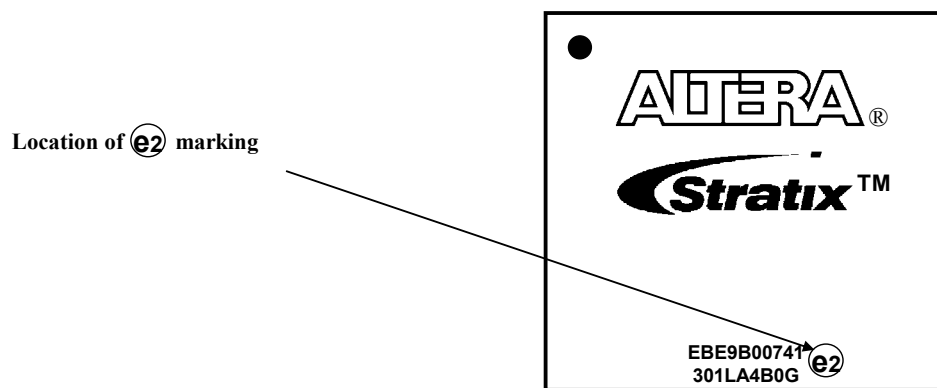
This change will be implemented beginning May 1st, 2005. Beginning on this date, Altera will implement the eN code marking on units and the revised labeling.

Contact:

For more information on this advisory, please contact Altera Customer Quality support at customer-quality@altera.com


Appendix 1

EXAMPLE OF DEVICE MARKING WITH eN



Appendix 2 - Moisture Barrier Bag Label

(Item in dotted lines will be added to current label)

	CAUTION This bag contains MOISTURE – SENSITIVE DEVICES	LEVEL 3
<ol style="list-style-type: none">Shelf life in sealed bag : 18 months minimum at < 40°C and < 90% relative humidity (RH)After bag is opened, devices that will be subjected to vapor-phase reflow, or equivalent processing (peak package body temperature of 245°C) must be :<ol style="list-style-type: none">Mounted within: 168 hours at factory conditions of ≤ 30°C / 60% RH, or b) Stored at ≤ 10% RHDevices require baking before mounting if :<ol style="list-style-type: none">Humidity indicator card show humidity > 10% when measured at 23 ± 5°C, or b) Condition 2a or 2b is not met.If baking is required, devices may be baked for :<ol style="list-style-type: none">12 hours at 125°C +/- 5°C for high temperature device containers.Baking at 40°C +5°C/-0°C and < 5% RH for low temperature device containers is NOT RECOMMENDED.		
Bag Seal Date (MM – DD – YY) : 1234567890		
Note : LEVEL defined by IPC/JEDEC J-STD-020		
2nd Level Interconnect		
<ol style="list-style-type: none">RoHS Compliant – Category: e1Maximum safe rework temperature: 260°C		
For Rework: mount within 8 hours at factory conditions of ≤30°C / 60%RH		
ALTERA	ORIGIN : 123456789012	
PART # : 12345678901234567890		
LOT # : 12345678901	TRACE	
FAC # : 1234567890	CODE: 123456789	
D/C : 123456789012	QTY : 12345	
	PK : 12	
030305 16312		

Appendix 3 – Shipping Box Label

(Item in dotted lines will be added to current label)

 ALTERA	Origin:  PK: 12
 PART #: 12345678901234567890	
 LOT#1: 12345678901	 FAC#1: 1234567890
D/C#1: 123456789012	
TraceCode#1: 123456789	
 LOT#2: 12345678901	 FAC#2: 1234567890
D/C#2: 123456789012	
TraceCode#2: 123456789	
BOXED QTY: 12345	
DRYPACKED?(Y = YES,N = NO):	123456789012 
LINE THIS UP WITH BOX EDGE 030305 15:58	
RoHS Compliant – Category: e1	
 ALTERA	 QTY: 12345
 PART#: 12345678901234567890	
 LOT #: 12345678901	PK: 12
D/C: 123456789012	