



PRODUCT/PROCESS CHANGE NOTIFICATION

PCN MPG/SR/2003004

MATERIAL CHANGE FOR ALL ST ZEROPOWER AND TIMEKEEPER NVRAMS IN DIP24 AND DIP28 CAPHAT PACKAGES

WHAT IS THE CHANGE?

STMicroelectronics is implementing our new ECOPACK® Lead-free plating on all 24-lead and 28-lead CAPHAT™ DIP packaged ZEROPOWER® and TIMEKEEPER® NVRAM devices. These devices will convert from Tin-Lead to pure Tin-plated leadframes.

Note: Here, the term "Lead-free" means free of the element, Lead.

The following devices are affected:

M48T02-70PC1	M48T08-100PC1	M48T58-70PC1	M48Z02-70PC1	M48Z35-70PC1
M48T02-150PC1	M48T08-150PC1	M48T58Y-70PC1	M48Z02-150PC1	M48Z35Y-70PC1
M48T02-200PC1			M48Z02-150PC6	M48Z35AV-10PC1
	M48T18-100PC1	M48T59Y-70PC1	M48Z02-200PC1	
M48T12-70PC1	M48T18-150PC1	M48T59Y-70PC1D		M48Z58-70PC1
M48T12-150PC1		M48T59Y-70PC1DM	M48Z12-70PC1	M48Z58Y-70PC1
M48T12-200PC1	M48T35-70PC1	M48T59Y-70PC1DS	M48Z12-150PC1	M48Z58Y-70PC6
	M48T35Y-70PC1		M48Z12-200PC1	
	M48T35AV-10PC1	M48T86PC1		
			M48Z08-100PC1	
			M48Z18-100PC1	

For new system designs and qualifications, it is recommended that the Lead-free versions of these products be used.

WHY?

These changes are being implemented to make the devices more environmentally friendly.

WHEN?

Production parts could begin shipping as soon as April 1, 2004. Samples are available now. Qualification reports are available for each product family.

Once ST commences production of these Lead-free parts, it will cease production of the versions containing Lead, so customers are strongly encouraged to qualify the Lead-free parts in a timely manner.

Any last time orders for Leaded products needs to be placed by Jan 31, 2004.

HOW WILL THE CHANGE BE QUALIFIED?

Qualification is being done according to STMicroelectronics Corporate procedure.

IMPACT ESTIMATION AT USER'S SIDE

These changes should have no impact because the plating technologies used are compatible with both Leaded and Lead-free assembly processes.

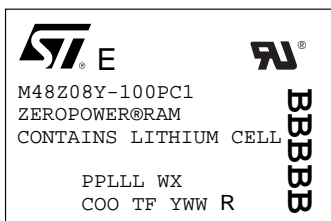
ABOUT TRACEABILITY

The Lead-free parts can be identified in three ways: The letter E (as in ECOPACK®) will appear in the brand. Furthermore, the trace code can be used to determine the time and place of manufacture, and hence the material content. Finally, the Lead-free parts will be labeled in a new format as shown in Figure 1, Figure 2, and Figure 3.

The full trace code per ST's new standard will be shown on the end of the inner bulk box (i.e. box inside shipping carton) as shown in Figure 3.

Figure 1. Lead-free Devices in the CAPHAT™ Package

The Lead-free parts will be labeled with the following format:



- The first row includes the ST logo and the Underwriter's Laboratories logo. At the lower right corner of the ST logo is the letter "E" (as in ECOPACK). Lead-free parts can be identified by the letter "E."
- The second row of text is the salestype (part number).
- The third row is the device family.⁽¹⁾
- The fourth row identifies it as having a battery.^(1,2)

Note: 1. The last two rows comprise the trace code, formatted as in Figure 2 and Figure 3, page 2.
 2. The rotated text on the right ("BBBB") is the battery trace code.

Figure 2. Assembly Site Trace Code (Row 5)

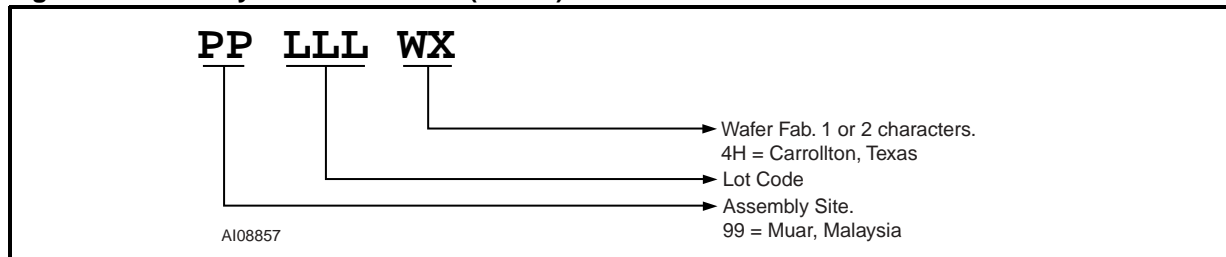


Figure 3. Country of Origin Trace Code (Row 6)

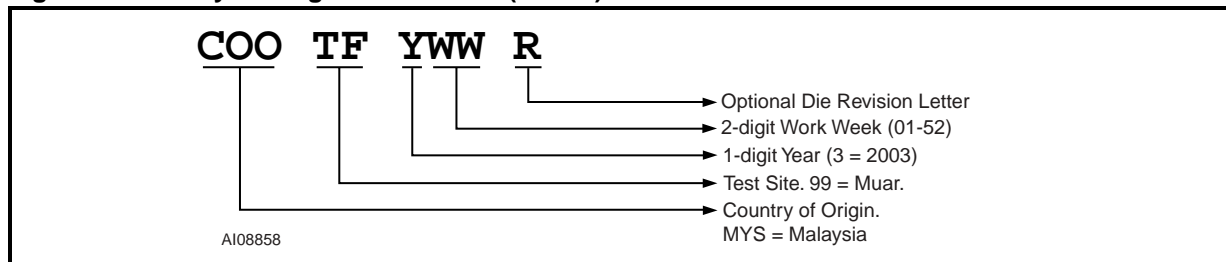
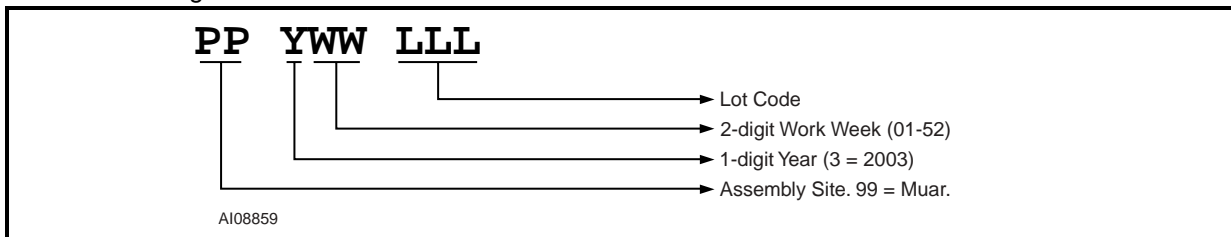


Figure 4. ECOPACK® Label

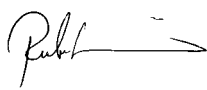

The inner bulk box will also have an ECOPACK® symbol (indicating Lead-free) on the label which is comprised of a green four-leaf clover and an IC package inserted into the text as shown in Figure 4:

**Figure 5. Inner Bulk Box Labeling**

The trace code is also contained on the label on the inner bulk box (i.e. box inside shipping carton), and has the following format:



APPENDIX A. PRODUCT / PROCESS CHANGE NOTIFICATION

Ref: MPG/SR/2003004	
Sales Type / Product Family:	See attached list.
Customer:	All those using any of the devices listed.
Type of Change:	New Lead-free package
Reason for Change:	To make the devices more environmentally friendly
Description of Change:	New Lead-free package
Forecasted Date of Change:	April 1, 2004
Availability Date of Samples for Customer:	October 1, 2003
Forecasted Date for Internal STMicroelectronics Change Qualification Report Availability:	Now
Marking to Identify Changed Product, e.g. Date Code Change:	See attached.
Description of the Qualification Program:	According to ST Corporate Procedure
Product Line(s) and/or Part Number(s):	See attached list.
Manufacturing Location(s):	Wafer Fabrication: Carrollton, USA Assembly Location: Muar, Malaysia Test Location: Muar, Malaysia
Forecasted Date of Shipment:	April 1, 2004
Division Product Management:	R. SONNINO 
Group Q. A. Manager:	A. PANCHIERI 
Date:	October 2nd, 2003

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Ref: MPG/SR/2003004	
Customer Acknowledgment of Receipt	
Please sign and return to STMicroelectronics Sales Office	
<input type="checkbox"/> Qualification Plan Denied <input type="checkbox"/> Qualification Plan Approved <input type="checkbox"/> Change Denied <input type="checkbox"/> Change Approved	Name:
	Title:
	Company:
	Date:
	Signature:

Corporate Quality Procedure SOP271Rev. G



REVISION HISTORY**Table 1. Document Revision History**

Date	Rev. #	Revision Details
October, 2003	1.0	First Issue

CONTACT INFORMATION

If you have any questions or suggestions concerning the matters raised in this document, please send them to the following electronic mail addresses:

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ask.memory@st.com (for general inquiries)

Please remember to include your name, company, location, telephone number, and fax number.

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