



PRODUCTION INFORMATION LETTER

PIL: CQA /01/2003.

LEADFREE COMPONENTS CONNECTIONS

Dear Customer,

This letter of information is intended to inform you of the changes on ST components to occur in year 2003 and afterwards, to meet the LEAD-FREE requirements of the market and the European ROHS (Restriction of Harmfull Substances) directive.

LEAD-FREE components are defined by STMicroelectronics as ECOPACK[®] components.

The implementation of the ECOPACK specification include the suppression of lead metal in the alloys used for the components lead finish and will be confirmed through further communications by package range.

So we will help you remove lead metal from electronic devices and contribute to protect the world from its toxicity.

SUBJECT: CONVERSION TO LEAD-FREE CONNECTIONS

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ISSUED BY: JM MARCANT ST Corporate Quality

Reason:

While a wide variety of electronic parts used in electronic equipment contain lead, worldwide directives stipulate that lead contained in packaging must be reduced. Lead may indeed cause health disorder. Under these circumstances, conversion to make lead-free products is in process on a global scale.

Products involved:

All ST Components with connections containing lead metal.

Schedule:

These changes will be available progressively in the course of year 2003 and later.

Detailed schedules and PCNs⁽¹⁾ will be sent in the coming months.

⁽¹⁾ Product Change Notification

Effect of change:

Two connections coatings will be mainly used for ECOPACK components:

- Tin (Sn) post assembly plating, essentially for insertion packages, power SMD and PLCC packages, and for discrete components. The dipping technique will be converted to Sn dipping whenever it is already in use with SnPb alloy.
- Pre-plated NiPdAu coating for SMD products, excluding power SMD, PLCC and TSOP packages. NiPdAu is a three-layer coating applied on the surface of the lead frames prior to assembly.

From its assembly subcontractors, ST may supply to its customers components with lead-free connections using Sn based alloys such as SnCu, SnAgCu or SnBi. In any case, the connections coating will meet the ECOPACK specification.

ECOPACK BGA's and Flip-Chip packaging will utilize eutectic-near SnAgCu solder balls.

ECOPACK components are solderable with both current SnPb and SnAgCu lead-free PCB assembly processes.

Beside the change of connection coating, a change in materials (glue and/or molding compound) may occur in several cases in order to meet the higher soldering temperature constraints required for leadfree soldering using in particular IPC/JEDEC JSTD020B standard as reference.

The identification of ECOPACK products will be achieved through specific labeling on component boxes. Whenever possible, the letter "E" will be added in the marking pattern beside the ST logo on the package body.

Action taken:

Qualification of lead-free finishing processes and components for all assembly lines in use.

Action pending:

Customers notification.

Implementation of lead-free finishing process upon customer's acceptance.

Contact for detailed information:

Please contact your Field Sales Office.

References:

- ☞ ST Ecopack specification, available upon request .
- ☞ IPC/JEDEC J-STD-020B Moisture/Reflow Sensitivity Classification for Nonhermetic Solid State Surface Mount Devices
- ☞ ROHS European directive

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