



Final Product Change Notification

201601003F01

Issue Date: 13-May-2016
Effective Date: 25-Aug-2016

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QUALITY

Change Category

<input checked="" type="checkbox"/> Wafer Fab Process	<input type="checkbox"/> Assembly Process	<input checked="" type="checkbox"/> Product Marking	<input type="checkbox"/> Test Process	<input checked="" type="checkbox"/> Design
<input checked="" type="checkbox"/> Wafer Fab Materials	<input checked="" type="checkbox"/> Assembly Materials	<input type="checkbox"/> Mechanical Specification	<input type="checkbox"/> Test Equipment	<input type="checkbox"/> Errata
<input type="checkbox"/> Wafer Fab Location	<input type="checkbox"/> Assembly Location	<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Location	<input type="checkbox"/> Electrical spec./Test coverage

Release of copper bond wire, new mold compounds and 8 inch wafer diameter in SOT223

Details of this Change

Scheduled changes affect product types in SOT223 package only.

In addition to the announced changes in the APCN, there will be a change of the top metal thickness for all types affected by this FPCN. Please refer to the Self Qualification Report for details.

- (1) The bond wire material will be changed from gold (Au) to copper (Cu). Gold wire remains qualified for supply security reasons only.
- (2) Second source mold compound suppliers will be introduced as new alternative sources for copper wire products.
- (3) The leadframe will be changed to a new design.
- (4) Release of production using 8 inch wafer diameter. The thickness of the top metallisation will be adapted from 2.1µm to 2.2µm resp. from 1.4µm to 1.5µm.
- (5) Several product types will be changed to a smaller die pitch size (400µmx400µm instead of 500µmx500µm resp. 520µmx520µm).

Old product: production using 6 inch wafer diameter, wire material is Au (with currently used mold compound and leadframe design)

Changed product: production using 6 and 8 inch wafer diameter, wire material is Cu (with currently used first and new second source mold compound, changed leadframe design) or Au (with currently used first and new second source mold compound, changed leadframe design), partly changed die pitch size (only in combination with 8 inch wafer diameter), changed top side metallisation thickness (only in combination with

8 inch wafer diameter)

Reliability qualification and full electrical characterization over temperature has been performed. No change on thermal behavior or mechanical dimensions. Electrical parameters remain unchanged (in specification and with the same distribution).

Why do we Implement this Change

(1) Aligning with world technology standards, NXP continues to introduce copper wire for plastic SMD packages. Copper wire shows enhanced mechanical properties.

(2) Following NXP company policy and second source material availability, new second source mold compounds will be added to the BOM. The second sources are already well-established mold compound suppliers for NXP GA discrete semiconductor products.

(3) Standardisation of leadframe design with similar package SOT89. Leadframes with grooves are in production for SOT89 types since 2006.

(4) To increase flexibility and volume ramp-up.

(5) Volume ramp-up, increase of wafer fab capacity and flexibility.

Identification of Affected Products

Top side marking

Products can be identified by different date code formats on package surface:

Products with gold (Au) wire have a 2-digit date code.

Products with copper (Cu) wire will have a 3-digit date code.

Product Availability

Sample Information

Samples are available upon request

Latest sample request date for PCN samples is 13-June-2016.

Production

Planned first shipment 25-Aug-2016

Impact

No impact to the products' functionality anticipated.

Data Sheet Revision

No impact to existing datasheet

Disposition of Old Products

Existing inventory will be shipped until depleted

Supply using 6 inch wafer will be continued in parallel to 8 inch wafer production.

Timing and Logistics

Your acknowledgement of this change, conform JEDEC JESD46 D, is expected till 12-Jun-2016.

Contact and Support

For all inquiries regarding the ePCN tool application or access issues, please contact NXP "Global Quality Support Team".

For all Quality Notification content inquiries, please contact your local NXP Sales Support team.

For specific questions on this notice or the products affected please contact our specialist directly:

Name GA Customer Support

e-mail address DiscrQA.Helpdesk.GA-Products@nxp.com

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