ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16521

Generic Copy

Issue Date: 17-Sept-2010

TITLE: Copper Wire in the SOT563 and SOT723 Packages for MOSFET Products

PROPOSED FIRST SHIP DATE: 17-Dec-2010

AFFECTED CHANGE CATEGORY(S): ON Semiconductor Manufacturing Assembly

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or Jennie Shen <Jennie.Shen@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Office or Brian Goodburn <brian.goodburn@onsemi.com>

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Office or Donna Scheuch <d.scheuch@onsemi.com>

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <quality@onsemi.com>.

DESCRIPTION AND PURPOSE:

Referencing the ON Semiconductor General Announcement #GA16200: Conversion of Gold wire to Copper wire in ON Semiconductor's Assembly Facilities

ON Semiconductor is notifying customers of its use of Copper Wire in place of Gold Wire for their SOT563 and SOT723 Packaged Products. The SOT563 and SOT723 Products built with MOSFET Die are represented by this Process Change Notice.

Reliability Qualification and full electrical characterization over temperature have been performed.

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RELIABILITY DATA SUMMARY:

Reliability Test Results: NTK3142PT1H
Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Bond Pull Strength
Conditions: 3-Lots
Results: 0/90

Test: Bond Pull Shear
Conditions: 3-Lots
Results: 0/90

Reliability Test Results: NTS2101PT1G
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vds= 100% Vgs Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Storage Life (HTSL)
Conditions: Ta=175'C, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Storage Life (HTSL)
Conditions: Ta=150'C, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 3-Lots
Results: 0/240

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Bond Pull Strength
Conditions: 4-Lots
Results: 0/120

Test: Bond Pull Shear
Conditions: 4-Lots
Results: 0/120

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Reliability Test Results: NTZS3151PT1G
Test: High Temperature Reverse Bias (H3TRB)
Conditions: Ta=85'C, Relative Humidity= 85%, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 3-Lots
Results: 0/240

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Resistance to Solder Heat (RSH)
Tdwell= 10-Sec @ 260'C
Results: 0/90

Reliability Test Results: NTZS3151PT1G
Test: High Temperature Reverse Bias (H3TRB)
Conditions: Ta=85'C, Relative Humidity= 85%, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 3-Lots
Results: 0/240

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Resistance to Solder Heat (RSH)
Tdwell= 10-Sec @ 260'C
Results: 0/90

Reliability Test Results: NTZD5110NT1G
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vds= 100% Vgs Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: High Temperature Storage Life (HTSL)
Conditions: Ta=175'C, Duration: 1008-Hrs, 3-Lots
Results: 0/240

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Conditions: Ta=150'C, Duration: 1008-Hrs, 3-Lots
Results: 0/240

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, , 3-Lots
Results: 0/240

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Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 3-Lots
Results: 0/240

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Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/240

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/240

Test: Resistance to Solder Heat (RSH)
Tdwell= 10-Sec @ 260'C
Results: 0/90

Reliability Test Results: NTZD5110NT1G
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
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Tdwell= 10-Sec @ 260'C
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ELECTRICAL CHARACTERISTIC SUMMARY:

There is no change in electrical parametric performance. Characterization data is available upon request.

CHANGED PART IDENTIFICATION:

There will be no physical change with products assembled with Copper Wire in place of Gold Wire. Products (listed on this FPCN) assembled with Copper Wire from the ON Semiconductor facility in Seremban, Malaysia, and in Leshan, China, will have a Finish Good Date Code representing Work Week 49, 2010 or newer.

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List of affected General Parts:

NTK3043NAT5G
NTK3043NT1G
NTK3043NT1H
NTK3043NT5H
NTK3134NT1G
NTK3134NT1H
NTK3134NT5H
NTK3139PT1G
NTK3139PT1H
NTK3139PT5G
NTK3139PT5H
NTK3142PT1G
NTK3142PT1H
NTK3142PT5G
NTK3142PT5H
NTZS3151PT1G
NTZS3151PT1H
NTZD3152PT1G
NTZD3152PT1H
NTZD3154NT1G
NTZD3154NT1H
NTZD3154NT2H
NTZD3154NT5G
NTZD3154NT5H
NTZD3155CT1G
NTZD3155CT1H
NTZD3155CT2G
NTZD3155CT2H
NTZD3155CT5G
NTZD3155CT5H
NTZD5110NT1G