



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION # 16658

Generic Copy

Issue Date: 31-May-2011

TITLE: Added Wafer Capacity at United Microelectronics Corporation

PROPOSED FIRST SHIP DATE: 31-Aug-2011

AFFECTED CHANGE CATEGORY(S): Wafer Fabrication

AFFECTED PRODUCT DIVISION: PowerFET Business Unit

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or Jason Jeong <Jason.Jeong@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 Initial Product/Process Change Notification #16391:
Wafer Capacity Expansion.

ON Semiconductor is already utilizing United Microelectronics Corp (UMC) for their High Cell Density (HD3e) and Trench (T2) MOSFET technology silicon platforms. ON Semi is now adding more wafer fabrication capacity for their Trench (T1) MOSFET platform. This has been accomplished by qualifying this platform at their UMC facility located in Taiwan. Wafer starts of this Trench (T1) Silicon technology will begin at UMC in August 2011.

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

**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION # 16658****RELIABILITY DATA SUMMARY:**

Reliability Test Results: NTHD4102PT1G (20V 4.1A 80 mOhm Dual P-Ch Trench ChipFET Package)

Test: High Temperature Reverse Bias (HTRB)

Conditions: Ta=150°C, Vds= 80% BVdss Rating, Duration : 1008-Hrs, 1-Lot
Results: 0/80

Test: High Temperature Gate Bias (HTGB)

Conditions: Ta=150°C, Vgs= 100% Vgs Rating, Duration : 1008-Hrs, 1-Lot
Results: 0/80

Test: Temperature Cycling (TC-PC)

Conditions: Ta=-65°C/150°C, Air-to-Air, Dwell >=10-min, 1000-cy, 1-Lot
Results: 0/80

Test: Highly Accelerated Stress Test (HAST)

Conditions: Ta=130°C, RH=85%, Duration: 96-Hrs, 1-Lot
Results: 0/80

Test: Resistance to Solder Heat (RSH)

Tdwell= 10-Sec @ 260°C, 1-Lot
Results: 0/45

Test: Bond Pull Strength

Conditions: 1-Lot
Results: 0/30

Test: Bond Pull Shear

Conditions: 1-Lot
Results: 0/30

Reliability Test Results: NTHS4101PT1G (20V 6.7A 34 mOhm Single P-Ch Trench ChipFET Package)

Test: High Temperature Reverse Bias (HTRB)

Conditions: Ta=150°C, Vds= 80% BVdss Rating, Duration : 1008-Hrs, 2-Lots
Results: 0/160

Test: High Temperature Gate Bias (HTGB)

Conditions: Ta=150°C, Vgs= 100% Vgs Rating, Duration : 1008-Hrs, 2-Lots
Results: 0/160

Test: Temperature Cycling (TC-PC)

Conditions: Ta=-65°C/150°C, Air-to-Air, Dwell >=10-min, 1000-cy, 2-Lots
Results: 0/160

Test: Highly Accelerated Stress Test (HAST)

Conditions: Ta=130°C, RH=85%, Duration: 96-Hrs, 2-Lots
Results: 0/160

Test: Resistance to Solder Heat (RSH)

Tdwell= 10-Sec @ 260°C, 2-Lots
Results: 0/90

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Reliability Test Results: NTLJS3113PT1G (20V 7.7A 40 mOhm Single P-Ch Trench WDFN Package)

Test: High Temperature Gate Bias (HTGB)

Conditions: Ta=150°C, Vgs= 100% Vgs 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: 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: Resistance to Solder Heat (RSH)

Tdwell= 10-Sec @ 260°C, 3-Lots

Results: 0/135

Test: Bond Pull Strength

Conditions: 1-Lot

Results: 0/30

Test: Bond Pull Shear

Conditions: 1-Lot

Results: 0/30

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 to the Devices assembled with Die from the United Microelectronics Corp (UMC) wafer fabrication facility. There will be Wafer Lot traceability from the manufacturing Lot to determine the Die origin. Product assembled with the Die fabricated from the UMC wafer facility will have a Finish Good Date Code of '1135' and newer indicating a Die change-over during the fourth week in August, 2011.



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List of affected General Parts:

NTS2101PT1G	NTHD4102PT1G
NTS2101PT1H	NTHD4102PT1H
NTJD4105CT1G	NTHD4102PT3G
NTJD4105CT1H	NTR4101PT1G
NTJD4105CT2G	NTR4101PT1H
NTJD4105CT4G	NTZS3151PT1G
NTJD1155LT1G	NTZS3151PT1G
NTR2101PT1G	NTZS3151PT1H
NTR2101PT1H	NTZS3151PT5G
NTJS3151PT1G	NTZS3151PT5G
NTJS3151PT2G	NTJS4151PT1G
NTZD3152PT1G	NTS4101PT1G
NTZD3152PT1H	NTS4101PT1G
NTZD3152PT5H	NTS4101PT1H
NTK3139PT1G	NTS4173PT1G
NTK3139PT1H	NTR4171PT1G
NTK3139PT5G	NTR4171PT3G
NTK3139PT5H	NTGS4111PT1G
NTHS4101PT1G	NTGS4111PT2G