ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16539

Generic Copy

Issue Date: 01-Dec-2010

TITLE: Wafer Capacity Expansion at United Microelectronics Corporation (UMC)

PROPOSED FIRST SHIP DATE: 07-Mar-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 Melyssa Hutchins <melyssa.hutchins@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 Final Product/Process Change Notice #16391: Wafer Capacity Expansion at United Microelectronics Corporation (UMC).

This is a subsequent announcement to Customers that all the remaining High Cell Density (HD3e) MOSFET products can have Die sourced from either ON Semiconductor's Wafer facility in Aizu, Japan, or from a Wafer Foundry, United Microelectronics Corporation located in Taiwan.

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

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RELIABILITY DATA SUMMARY:

NTB5411NT4G (60V, HD3e Planar, N-Channel, D2PAK Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=175'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/231

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=175'C, Vgs= 100% Vgs Rating, Duration: 1008-Hrs, 3-Lots
Results: 0/231

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 3-Lots
Results: 0/231

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 1000-cy, 3-Lots
Results: 0/231

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 3-Lots
Results: 0/231

Test: High Humidity, High Temperature Reverse Bias (H3TRB)
Conditions: Vds= 24Vds, Ta=85'C, Rel Humidity = 85%, 1008-Hrs
Results: 0/231

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, 3-Lots
Results: 0/231

Reliability Test Results: NTD25P03T4G (30V, HD3e Planar, P-Channel, DPAK Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=175'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 1-Lots
Results: 0/77

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=175'C, Vgs= 100% Vgs Rating, Duration: 1008-Hrs, 1-Lots
Results: 0/77

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 1-Lots
Results: 0/77

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 500-cy, 1-Lots
Results: 0/77

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 1-Lots
Results: 0/77

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Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, 1-Lots
Results: 0/77

Reliability Test Results: NTMS3P03R2G (30V, HD3e Planar, P-Channel, SO8 Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration: 1008-Hrs, 1-Lots
Results: 0/77

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vgs= 100% Vgs Rating, Duration: 1008-Hrs, 1-Lots
Results: 0/77

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 15K- cy, 1-Lots
Results: 0/77

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 500-cy, 1-Lots
Results: 0/77

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 1-Lots
Results: 0/77

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, 1-Lots
Results: 0/77

Reliability Test Results: NTR4501NT1G (20V, HD3e Planar, N-Channel, SOT23 Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=150'C, Vds= 80% BVdss Rating, Duration: 504-Hrs, 1-Lots
Results: 0/77

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=150'C, Vgs= 100% Vgs Rating, Duration: 504-Hrs, 1-Lots
Results: 0/77

Test: Intermittent Operating Life (IOL-PC)
Conditions: Ta=25'C, delta Tj=100'C, 2-min on/off, 7.5K- cy, 1-Lots
Results: 0/77

Test: Temperature Cycling (TC-PC)
Conditions: Ta=-65'C/150'C, Air-to-Air, Dwell >=10-min, 500-cy, 1-Lots
Results: 0/77

Test: Autoclave Test (AC-PC)
Conditions: Ta=121'C, P=15psi, RH=100%, Duration: 96-Hrs, 1-Lots
Results: 0/77

Test: Highly Accelerated Stress Test (HAST)
Conditions: Ta=130'C, RH=85%, Duration: 96-Hrs, 1-Lots
Results: 0/77

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Reliability Test Results: NTB6411ANG (100V, HD3e Planar, N-Channel, D2PAK Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=175'C, Vds= 80% BVdss Rating, Duration : 504-Hrs, 1-Lots
Results: 0/77

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=175'C, Vgs= 100% Vgs Rating, Duration: 504-Hrs, 1-Lots
Results: 0/77

Reliability Test Results: NTD110N02RT4G (24V, HD3e Planar, N-Channel, DPAK Package)
Test: High Temperature Reverse Bias (HTRB)
Conditions: Ta=175'C, Vds= 80% BVdss Rating, Duration: 504-Hrs, 1-Lots
Results: 0/231

Test: High Temperature Gate Bias (HTGB)
Conditions: Ta=175'C, Vgs= 100% Vgs Rating, Duration : 504-Hrs, 1-Lots
Results: 0/231

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 '1109' and newer indicating a Die change-over during the first week in March, 2011.

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List of affected General Parts:

NTB6411ANT4G	STR1P02LT1G	NTR4501NT1H	NTR4503NT1H
NTB6412ANG	STR1P02LT1G	NTR4501NT3H	NVTR4503NT1G
NTB6412ANT4G	NTD80N02T4H	NSTR4501NT1G	NTR4503NT1H
NTB6413ANG	NTD80N02T4H	NTR4501NT1H	NVTR4503NT1G
NTB6413ANT4G	NTD80N02T4H	NTR4501NT3H	NTR4503NT1H
NTP6413ANG	NTGS3446T1G	NTR4501NT1H	STD5406NT4G
NTD6415AN-1G	NVGS3441PT1G	NTR4501NT3H	NTB5405NT4G
NTD6415ANT4G	NTGS3441PT1G	NTLGF3402PT2G	STD5407NT4G
NTD6416AN-1G	NVGS3441PT1G	NTLGF3402PT2G	NTP5412NG
NTD6416ANT4G	NSTHS5404T1G	NTLGF3402PT2G	NVD5414NT4G
NTB6410ANT4G	NSTHS5404T1G	NTLGD3502NT2G	NTJD4105CT1G
NTD6416ANL-1G	NTHS5404T1G	NTLGF3501NT2G	NTJD4105CT1H
NTD6416ANLT4G	NTHS5404T1H	NTLGD3502NT2G	NTJD4105CT2G
NTD6415ANLT4G	NSTHC5513T1G	NTLGF3501NT2G	NTJD4401NT1G
NVD6415ANLT4G	NSTHC5513T1G	NTLGF3501NT2G	NVTJD4105CT1G
NVGS3441T1G	NTHC5513T1G	NSTHD4502NT1G	NVTJD4401NT1G
NTGS3441T1G	NTHD4P02FT1G	NSTHD4502NT1G	NTJD4105CT1G
NTGS3441T1H	NTLGD3502NT2G	NTHD4502NT1G	NTJD4105CT1H
NVGS3441T1G	NTLGD3502NT2G	NTGS3455T1G	NTJD4105CT2G
NTGS3441T1G	NTLGD3502NT2G	NTGS3455T1H	NTJD4401NT1G
NTGS3441T1H	NTHS5441T1G	NVTGS3455T1G	NTJS4405NT1G
NVMS10P02R2G	NTHS5441T1H	NTGS3455T1G	NTJS4405NT1H
NVMS10P02R2G	NTHS5441T1G	NTGS3455T1H	NTS4409NT1G
NVGS3443T1G	NTHS5441T1H	NVTR4502PT1G	NVTS4409NT1G
NTGS3433T1G	NTD60N02RT4H	NVTR4502PT1G	NTJS4405NT1G
NTGS3443T1G	NTD60N02RT4H	NVMD6N03R2G	NTJS4405NT1H
NTGS3443T1H	NTD60N02RT4H	NVMSD6N303R2G	NTS4409NT1G
NTGS3443T2H	NTHS5443T1G	NVMD6N03R2G	NVTS4409NT1G
NTTD4401FR2G	NTHS5443T1H	NVMSD6N303R2G	NTJS4405NT1G
NTTD4401FR2H	NTHS5443T1G	NTF5P03T3G	NTJS4405NT1H
NVGS3443T1G	NTHS5443T1H	NTF5P03T3G	NTS4409NT1G
NTGS3433T1G	NSTHC5513T1G	NVMD3P03R2G	NSTR1P02T1G
NTGS3443T1G	NSTHD4508NT1G	NTF5P03T3G	NSTR1P02T1G
NTGS3443T1H	NSTHC5513T1G	NTMS4503NR2G	NSTR1P02T1G
NTGS3443T2H	NSTHD4508NT1G	NTMS4503NR2G	NVTR0202PLT1G
NTTD4401FR2G	NTHC5513T1G	NTMS4503NR2G	
NTTD4401FR2H	NTHD4508NT1G	NTD70N03R-1H	
NVGS3443T1G	NSTR4501NT1G	NTD70N03R-1H	