



INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION

Generic Copy

02-Nov-06

SUBJECT: ON Semiconductor Initial Product/Process Change Notification #15666

TITLE: Added Capacity at Nantong Fujitsu for DPAK Packaged Low Voltage, N-Channel, Trench MOSFET Devices

PROPOSED FIRST SHIP DATE: 01-Mar-07

AFFECTED CHANGE CATEGORY: Subcontractor Assembly Site

AFFECTED PRODUCT DIVISION: Power MOSFET Division

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local Sales Office or Clara Cheng <Clara.Cheng@onsemi.com>

FOR PRODUCT SAMPLES:

Contact your local Sales office or Kathleen Van Tyne <k.vantyne@onsemi.com>

NOTIFICATION TYPE:

Initial Product/Process Change Notification (IPCN)

First change notification sent to customers. IPCNs are issued at least 120 days prior to implementation of the change. An IPCN is advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary Reliability Qualification plan.

The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN).

This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 60 days prior to implementation of the change.

DESCRIPTION AND PURPOSE:

This Initial Process Change Notice is an early notification that ON Semiconductor will be using Nantong Fujitsu Microelectronics Co. (NFME) as a manufacturing facility for their Low Voltage, N-Channel, Trench MOSFET products. ON Semiconductor currently uses NFME for packaging of Planar and other Trench MOSFET products.

NFME's DPAK package meets JEDEC case outline standards, however, does have minor backside visual differences with other manufacturing facilities used by ON Semiconductor. In addition to NFME, ON Semiconductor will continue to manufacture DPAK products in their internal factory in Seremban, Malaysia, and external subcontractor ChipPac in Kuala Lumpur, Malaysia.

The Product portfolio being assembled at NFME will include the Devices listed in this notification.

**Initial Product/Process Change Notification #15666****QUALIFICATION PLAN:**

Reliability Tests:

Test: High Temperature Gate Bias (HTGB)

Conditions: $V_{gs}=100\%V_{gs}$, $T_a=175^{\circ}\text{C}$, 1008-Hrs.

Test: High Temperature Reverse Bias (HTRB)

Conditions: $V_{ds}=19.2\text{V}$, $T_a=175^{\circ}\text{C}$, 1008-Hrs

Test: Intermittent Operating Life (IOL)

Conditions: $T_a=25^{\circ}\text{C}$, $\Delta T_j=100^{\circ}\text{C}$, 2-min on/off, 15K-cycles

Test: Temperature Cycling (TC-PC)

Conditions: $T_a=-65^{\circ}\text{C}/150^{\circ}\text{C}$, Air-to-Air, Dwell ≥ 10 -min, 1000-cy

Test: Autoclave Test (AC-PC)

Conditions: $T_a=121^{\circ}\text{C}$, $P=15\text{psi}$, $\text{RH}=100\%$, 96-Hrs

Test: Solder Heat

Conditions: $T_a=260^{\circ}\text{C}$, Dwell Time=10-Seconds,

Results:

Test: Solderability

Conditions: Steam age=8-Hrs, $T_a=245^{\circ}\text{C}$

Test: Precondition*(MSL-1).

Test: Resistance to Solder Heat

Conditions: $T_a=260^{\circ}\text{C}$, Dwell Time= 10 Sec

Test: Solderability (PbSn)

Conditions: $T_a=245^{\circ}\text{C}$,

Tests: Solderability (SnCuAg)

Conditions: $T_a=260^{\circ}\text{C}$,



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AFFECTED DEVICE LIST:

PART

NTD4804N-1G
NTD4804NA-1G
NTD4804NT4G
NTD4805N-1G
NTD4805NT4G
NTD4806N-1G
NTD4806NA-1G
NTD4806NT4G
NTD4808N-1G
NTD4808NT4G
NTD4809N-1G
NTD4809NA-1G
NTD4809NH-1G
NTD4809NHT4G
NTD4809NT4G
NTD4810N-1G
NTD4810NH-1G
NTD4810NHT4G
NTD4810NT4G
NTD4813N-1G
NTD4813NH-1G
NTD4813NHT4G
NTD4813NT4G
NTD4815N-1G
NTD4815NH-1G
NTD4815NHT4G
NTD4815NT4G