



Title of Change:	Transfer of Assembly and Test operations for DPAK to ON Semiconductor Bien Hoa, Dong Nai Province, Vietnam.
Proposed Changed Material First Ship Date:	28 April 2018
Current Material Last Order Date:	N/A – To be determined with FPCN submission.
Current Material Last Delivery Date:	N/A – To be determined with FPCN submission.
Product Category:	Active components – Integrated circuits
Contact information	Contact your local ON Semiconductor Sales Office or <Richard.White@onsemi.com>
Samples	Samples will be available after completion of qualification. Contact your local ON Semiconductor Sales Office.
Sample Availability Date:	28 April 2017
PPAP Availability Date:	28 April 2017
Additional Reliability Data	Contact your local ON Semiconductor Sales Office or <Peter.Turlo@onsemi.com>.
Type of Notification	This is an Initial Product/Process Change Notification (IPCN) sent to customers. IPCNs are issued at least 30 days prior to the issuance of the Final Change Notice (FPCN). An IPCN is an 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 12 months prior to implementation of the change. In case of questions, contact <PCN.Support@onsemi.com>.
Change Category	Type of Change
Process – Assembly	Copy all or part of assembly to a different location.
Process – Assembly	Change of product marking.
Process – Assembly	Change of mold compound.
Process – Assembly	Change of wire bonding.
Equipment - Assembly	Production from a new equipment which uses the same basic technology without change of process.
Test Flow	Copy all or part of final test to a different location.



Description and Purpose:

This Initial Notification announces the transfer of ON Semiconductor’s assembly and test operations for the below listed DPAK package products, currently built at ON Semiconductor Seremban (TB), Malaysia to ON Semiconductor Bien Hoa, Dong Nai Province, Vietnam (VF).

The changes to the assembly are:

1. The Mold Compound has been improved in the OSV bill of material. Changing from G700HC to G700HF. The G700HF has lower stress index than G700HC which helps lower package stress and lower tendency for delamination.
2. NCV8405BDTRKG & NID9N05BCLT4G have minor changes to the bond wires. See below table for details of changes. These minor changes will not affect electrical performance or product robustness.

	ONsemi Seremban Description	ONsemi Vietnam Description
Mold Compound	MC EME-G700HC	G700HF
Bond Wire on device: NCV8405BDTRKG	Gate Wire: No Change Source Wire: (2) 8 mils Al	Gate Wire: No Change Source Wire: (2) 5 mils Al
Bond Wire on device: NID9N05BCLT4G	Gate Wire: (1) 5 mils Al Source Wire: (1) 8 mils Al	Gate Wire: (1) 4 mils Al Source Wire: (2) 5 mils Al

No Changes to the Final Test process or equipment.

Reason / Motivation for Change:	Change Benefit: Rapid utilization of available capacity. Risk for late release: Limited Capacity
Anticipated impact on fit, form, function, reliability, product safety or manufacturability	No anticipated impacts.
Sites Affected: <input type="checkbox"/> All site(s) <input type="checkbox"/> not applicable <input checked="" type="checkbox"/> ON Semiconductor site(s) : ON Binh Duong Province, Vietnam ON Seremban, Malaysia <input type="checkbox"/> External Foundry/Subcon site(s)	
Marking of Parts/ Traceability of Change:	New Orderable Part Numbers are created.



Reliability Data Summary:

Lead Automotive qualification

DEVICE NAME: NCV8401BDTRKG

RMS: 37393

PACKAGE: DPAK

Test	Specification	Condition	Interval
HTOL	JESD22-A108	Ta=150°C, 100 % max rated Vcc	T500 hrs
PTC	JESD22-A105	Ta= -40°C to+125°C	PTC1000 cyc
TC	JESD22-A104	Ta= -55°C to +150°C	TC1000 cyc
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	T96 hrs
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	T96hrs
PC	J-STD-020 JESD-A113	MSL <u>1</u> @ 260 °C	
SC	Q101-006	Stress at -40C	
SD	JSTD002	Ta = 245C, 10 sec	
HTRB	JESD22 A108	Tj=150°C for 1000 hrs, 100% bias	T1000 hrs
PV	AEC-Q100-009	>1.67 Cpk	Cpk>1.67

Additional parts for qualification:

Device Names: NCV8403BDTRKG, NCV8408BDTRKG, NCV8405BDTRKG, NCV8406BDTRKG, NID9N05BCLT4G

PACKAGE: DPAK

Test	Specification	Condition	Interval
PV	AEC-Q100-009	>1.67 Cpk	Cpk>1.67

Estimated date for qualification completion: 13 April 2017

Electrical Characteristic Summary:

Electrical characteristics are not impacted

List of affected Standard Parts:

Current Part Number	New Part Number	Qualification Vehicle
NCV8401ADTRKG	NCV8401BDTRKG	NCV8401BDTRKG
NCV8403ADTRKG	NCV8403BDTRKG	
NCV8408DTRKG	NCV8408BDTRKG	
NCV8405ADTRKG	NCV8405BDTRKG	
NCV8406ADTRKG	NCV8406BDTRKG	
NID9N05ACL4G	NID9N05BCLT4G	