Final Product/Process Change Notification

Document #:FPCN24003X
Issue Date: 13 Apr 2023

Title of Change:	Gold to copper bond wire conversion for the ecoSWITCH products at onsemi Seremban site located in Malaysia. Also included is a change of the mold compound encapsulation compatible with copper wire.
Proposed First Ship date:	20 Jul 2023 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or Peter.Vo@onsemi.com
PCN Samples Contact:	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Additional Reliability Data:	Contact your local onsemi Sales Office or Phine.Guevarra@onsemi.com
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Parts can be identified by the date code in the traceability code.
Change Category:	Assembly Change
Change Sub-Category(s):	Material Change

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
onsemi Seremban, Malaysia	None

Description and Purpose:

This is to notify the completion of the qualification changing the bond wire material from gold wires to palladium coated copper wires for the ecoSWITCH family of products currently assembled at onsemi site located in Seremban, Malaysia.

The qualification includes a change to the mold compound encapsulation that is more compatible for copper wire bonding.

The bond wire material change is only applicable on the MOSFET die. The bond wire for the controller die will remain the same using gold wires. There is no product marking change as a result of this change.

	Before Change Description	**After Change Description**
Bond Wire MOSFET die only	2.0mil Gold wire	2.0mil Palladium Coated Copper, PCC
Mold Compound	EMEG760	EME-G770HM TYPE D

Reliability Data Summary:

QV DEVICE NAME: NCP45521
RMS: O77707
PACKAGE: DFN-8 2X2

Test	Specification	Condition	Interval	Results
HTSL	JESD22-A103	Ta= 150°C	2016 hrs	0/270
TC	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/270
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/237
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/270
PC	J-STD-020 JESD-A113	MSL 1 @ 265 °C		Pass
RSH	JESD22- B106	Ta = 265C, 10 sec		Pass
SD	JSTD002	Ta = 245C, 10 sec		0/45

QV DEVICE NAME: NCP45560
RMS: O77706
PACKAGE: DFN-12 3X3

Test	Specification	Condition	Interval	Results
HTSL	JESD22-A103	Ta= 150°C	2016 hrs	0/270
TC	JESD22-A104	Ta= -55°C to +150°C, mount on board	1000 cyc	0/270
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/270
PC	J-STD-020 JESD-A113	MSL 1 @ 265 °C		Pass
SD	JSTD002	Ta = 245C, 10 sec		0/45

QV DEVICE NAME: NCP45540
RMS: O78442
PACKAGE: DFN-12 3X3

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 100% max rated V	1008 hrs	0/247

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

List of Affected Parts:

Note: *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal****.*

Part Number	Qualification Vehicle
NCP45560IMNTWG-L	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45560IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45541IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45540IMNTWG-L	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45540IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45525IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45524IMNTWG-L	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45524IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45521IMNTWG-L	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45521IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45520IMNTWG-L	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H
NCP45520IMNTWG-H	NCP45521IMNTWG-H, NCP45560IMNTWG-H, NCP45540IMNTWG-H