



## Final Product/Process Change Notification

Document #:FPCN26053XD

Issue Date:10 Oct 2025

<b>Title of Change:</b>	Wafer fab site transfer and assembly BOM update of ecoSWITCH NCP455xxxIMNTWG-x Family of Products.
<b>Proposed First Ship date:</b>	17 Jan 2026 or earlier if approved by customer
<b>Contact Information:</b>	Contact your local onsemi Sales Office
<b>PCN Samples Contact:</b>	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.
<b>Additional Reliability Data:</b>	Contact your local onsemi Sales Office
<b>Type of Notification:</b>	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 <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a>
<b>Marking of Parts/ Traceability of Change:</b>	No change to marking / Changed material may be identified by lot code
<b>Change Category:</b>	Assembly Change, Wafer Fab Change
<b>Change Sub-Category(s):</b>	Material Change, Datasheet/Product Doc change, Manufacturing Site Transfer

### Sites Affected:

#### onsemi Sites

onsemi, East Fishkill

onsemi, Gresham United States

#### External Foundry/Subcon Sites

UTAC, Thailand

### Description and Purpose:

This FPCN is to announce the qualification completion of new wafer fabrication and assembly BOM update for the eco-Switch family of products.

The eco-Switch family of products is Multi-Chip Module (MCM) containing 2 distinct parts, namely, a controller and a MOSFET.

- The Controller, which utilizes onsemi B5 technology, was qualified at onsemi, Gresham, USA as its new wafer fabrication site.
- The MOSFET, which utilizes onsemi Trench technology, was qualified at onsemi, East Fishkill, USA as its new wafer fabrication site. Its probe and backgrind were also transferred to this new site to utilize semi-turnkey process.
- The MCM Assembly BOM was also updated following the change to the Controller and the MOSFET.

### I. Manufacturing Site Change Summary

Part	Site	From	To
Controller	Wafer Fab site	LA Semiconductor Pocatello, Idaho, USA	onsemi Gresham Oregon, USA
	Backgrind site	onsemi Seremban, Malaysia	UTAC, Thailand
MOSFET	Wafer Fab site	onsemi Gresham Oregon, USA	onsemi, East Fishkill, New York, USA
	Probe site	onsemi Seremban, Malaysia	
	Backgrind site		
MCM (Controller + MOSFET)	Assembly site	onsemi Seremban, Malaysia UTAC, Thailand	UTAC, Thailand

## II. Material Change Summary

Part	Site	From		To
Controller	Die thickness	152 um		127 um
	Die size	0.550 x 1.543 mm		0.565 x 1.558 mm
MOSFET	Die thickness	102 um		76 um
	Wafer size	200 mm		300 mm
	Die Size			
	NCP4552x	0.890 x 1.550 mm		0.850 x 1.350 mm
	NCP4554x	1.010 x 1.975 mm		0.920 x 1.380 mm
BOM	NCP4556x	1.600 x 2.600 mm		1.550 x 2.400 mm
	Assembly Site	onsemi, Seremban, Malaysia	UTAC, Thailand	UTAC, Thailand
	Lead Frame			
	NCP4552x	N66101E003	FR6018	FRA042
	NCP4554x	N67054E003	FR6017	FRA043
	NCP4556x	N67054E003	FR6020	FRA044
	Die Attach	CRM1084P, 800NS	QMI529HT, HR-5104-25	CRM-1296, HR-5104-25
	Wire	Controller: Au 0.8 mils MOSFET: PCC 2.0 mils	Controller: Au 0.8 mils MOSFET: Au 2.0 mils	Controller: CuPdAu 1.0 mils MOSFET: CuPdAu 2.0 mils
	Mold Compound	EME-G770HM Type D	G700LTD	G700LTD

## III. Datasheet Change Summary

Parameter	Conditions	From	To
On-Resistance ( $R_{ON}$ ) NCP4554x only	$V_{CC} = 3.3\text{ V}; V_{IN} = 1.8\text{ V}$	Max = 8.9 m $\Omega$	Max = 11.0 m $\Omega$
	$V_{CC} = 3.3\text{ V}; V_{IN} = 5.0\text{ V}$	Max = 9.3 m $\Omega$	Max = 12.0 m $\Omega$
	$V_{CC} = 3.3\text{ V}; V_{IN} = 12.0\text{ V}$	Max = 12.1 m $\Omega$	Max = 13.0 m $\Omega$
Slew Rate Control Constant ( $K_{SR}$ ) NCP4552x	Connect 10nF between SR & GND Run Pattern Calculate $K_{SR} = \text{Slew Rate} * 10\text{nF}$	Typ = 31 uA, Max = 38 uA	Typ = 33 uA, Max = 40 uA
NCP4554x		Typ = 33 uA, Max = 40 uA	Typ = 35 uA, Max = 42 uA
NCP4556x		Typ = 33 uA, Max = 40 uA	Typ = 35 uA, Max = 42 uA



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### Reliability Data Summary:

**QV Device Name:** NCP45540IMNTWG-H

**RMS:** O98299

**Package:** DFN12 3x3

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1,008 hrs	0/80
High Temperature Storage Life	JESD22-A103	Ta=150°C	1,008 hrs	0/80
Preconditioning	J-STD-020 JESD-A113	MSL 3 @ 260°C		0/160
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/80
Highly Accelerated Stress Test	JESD22-A110	110°C, 85% RH, bias	264 hrs	0/80
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/80

**QV Device Name:** NCV896530MWATXG

**RMS:** S96641

**Package:** DFN10 3x3

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1,008 hrs	0/240
High Temperature Storage Life	JESD22-A103	Ta=150°C	1,008 hrs	0/240
Preconditioning	J-STD-020 JESD-A113	MSL 3 @ 260 °C		0/720
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/240
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240

**QV Device Name:** NCP45770IMN24TWG

**RMS:** O91750

**Package:** DFN12 3x3

Test	Specification	Condition	Interval	Results
Intermittent Operational Life	MIL-STD-750 mtd 1037	Ta = 25°C, deltaTj = 100°C max, Ton = Toff = 3.5 min.	15,000 cyc	0/135
Ton = Toff = 3.5 min.	JESD22-A108	Tj=150°C	1,008 hrs	0/231
High Temperature Gate Bias	JESD22-A108	Tj=150°C	1,008 hrs	0/231



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### 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-H	NCP45540IMNTWG-H
NCP45520IMNTWG-H	NCP45540IMNTWG-H
NCP45540IMNTWG-H	NCP45540IMNTWG-H
NCP45521IMNTWG-H	NCP45540IMNTWG-H
NCP45524IMNTWG-L	NCP45540IMNTWG-H
NCP45541IMNTWG-H	NCP45540IMNTWG-H
NCP45525IMNTWG-H	NCP45540IMNTWG-H
NCP45524IMNTWG-H	NCP45540IMNTWG-H
NCP45540IMNTWG-L	NCP45540IMNTWG-H
NCP45520IMNTWG-L	NCP45540IMNTWG-H
NCP45560IMNTWG-L	NCP45540IMNTWG-H
NCP45521IMNTWG-L	NCP45540IMNTWG-H