Title of Change:	SOIC-8 Insourcing to ON Semiconductor Philippines (OSPI) Factory from HANA (Thailand)
Proposed first ship date:	28 June 2018 or earlier upon customer approval
Contact information:	Contact your local ON Semiconductor Sales Office or <Shannon.Riggs@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <shannon.riggs@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. ON Semiconductor 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>.
Change Part Identification:	Product marked with date code 2518 or later may be built from current factory or from OSPI Factory. The trace code marking on Line 2 is of the form ALYW where A = Assembly Location, L = Wafer Lot ID and YW is a 2-digit date code. Product marked with "P" as the assembly location will be from OSPI. Additionally on the label of the box and reel, the ASSY LOC: PO will also indicate product assembled in OSPI. Please see sample label on Page 2 at the following URL http://www.onsemi.com/pub/Collateral/LABELRM-D.PDF to see the location of the ASSY LOC.
Change category:	☐ Wafer Fab Change ☒ Assembly Change ☒ Test Change ☐ Other _____
Change Sub-Category(s):	☒ Manufacturing Site Change/Addition ☒ Material Change ☐ Datasheet/Product Doc change ☐ Manufacturing Process Change ☐ Product specific change ☒ Shipping/Packaging/Marking ☐ Other: _____
Sites Affected:	ON Semiconductor Sites: ON Carmona, Philippines External Foundry/Subcon Sites: HANA, Thailand

Description and Purpose:

ON Semiconductor would like to inform its customers of the qualification of ON Semiconductor Philippines (OSPI) for the assembly and test of all of the SOIC-8 products listed in this Final Product Change Notification (FPCN). This is a capacity expansion, and at the end of the FPCN approval cycle, these products may be dual sourced from either HANA, Thailand or from OSPI.

For Test, consigned testers and handlers as HANA have been transferred to OSPI to support the testing of products. The same load boards, test programs and other necessary hardware that is used in HANA, will be used to test the products listed.

For assembly, BOM changes associated with this FPCN are shown here:

	Before Change Description	After Change Description
Leadframe	Cu NiPdAu Plating	Cu NiPdAu Plating (no change)
Mold Compound	CEL8240HF10LYR, HENKEL GR828FC1	EME G600
Die Attach	Henkel QMI519	Henkel SBP-8062T
Wire Size and material	1.0mil Au	1.0mil Au (no change)

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Additionally, this FPCN serves to notify customers of a change in the marking for all products listed for BOTH sites, HANA and OSPI. The new marking will be of the form:

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XXXXXXXXX
ALYWX
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Line 1 is the Product Identification (see table for new Product IDs)

Line 2 is the Trace code with the following nomenclature: A = Assy Location, L = Wafer Lot ID, YW = 2 digit date code. The X at the end of the line is a wrap character if additional identification is needed from Line 1.

HANA: A = H

OSPI: A = P

OPN	Line 1 Marking
LM2903M	LM2903M
LM2903MX	LM2903M
LM2904M	LM2904M
LM2904MX	LM2904M
LM358AM	LM358AM
LM358AMX	LM358AM
LM358M	LM358M
LM358MX	LM358M
LM393AM	LM393AM
LM393AMX	LM393AM
LM393M	LM393M
LM393MX	LM393M
LP2951CM	LP2951CM
LP2951CMX	LP2951CM

Reliability Data Summary:

QV DEVICE NAME: <u>LM2904MX</u>
RMS: <u>K44373, O45110</u>
PACKAGE: <u>SOIC 8</u>

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 80 % max rated Vcc	1008 hrs	0/80
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/80
THB	JESD22-A101C	85°C, 85% RH, bias	1008 hrs	0/80
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	192 hrs	0/80
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C	-	0/320
SAT	JEDEC STD 035	Pre and Post MSL 1	-	0/25
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30
SD	JSTD002	Ta = 245C, 10 sec	-	0/15
PD	JESD22-B100	Per POD, case 751EB	-	0/30
CDPA	MILSTD750 Method 2037	Wire Pull after TC500 cycles	-	0/5

QV DEVICE NAME: <u>LP2951CMX</u>
RMS: <u>K44371, O45090</u>
PACKAGE: <u>SOIC 8</u>

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 80 % max rated Vcc	1008 hrs	0/80
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/80
THB	JESD22-A101C	85°C, 85% RH, bias	1008 hrs	0/80
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	192 hrs	0/80
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C	-	0/320
SAT	JEDEC STD 035	Pre and Post MSL 1	-	0/25
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30
SD	JSTD002	Ta = 245C, 10 sec	-	0/15
PD	JESD22-B100	Per POD, case 751EB	-	0/30
CDPA	MILSTD750 Method 2037	Wire Pull after TC500 cycles	-	0/5

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QV DEVICE NAME: <u>FAN7527BMX</u>
RMS <u>K43325, O44719</u>
PACKAGE <u>SOIC 8</u>

Test	Specification	Condition	Interval	Results
HTOL	JESD22-A108	Ta=125°C, 80 % max rated Vcc	1008 hrs	0/80
HTSL	JESD22-A103	Ta= 150°C	1008 hrs	0/77
TC	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/80
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/80
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	192 hrs	0/80
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C	-	0/320
SAT	JEDEC STD 035	Pre and Post MSL 1	-	0/25
RSH	JESD22- B106	Ta = 265C, 10 sec	-	0/30
SD	JSTD002	Ta = 245C, 10 sec	-	0/15
PD	JESD22-B100	Per POD, case 751EB	-	0/30
CDPA	MILSTD750 Method 2037	Wire Pull after TC500 cycles	-	0/5

Electrical Characteristic Summary:

Electrical characteristics are not impacted by this change.   Electrical comparison reports are available upon request

List of Affected Standard Parts:

Part Number	Qualification Vehicle
LM2903M	LM2904MX
LM2903MX	
LM2904M	
LM2904MX	
LM358AM	
LM358AMX	
LM358M	
LM358MX	
LM393AM	
LM393AMX	
LM393M	
LM393MX	
LP2951CM	LP2951CMX
LP2951CMX	

Appendix A: Changed Products

DIKG : DIGI-KEY

Product	Customer Part Number	Qualification Vehicle
LM2903M		LM2904MX
LM2903MX		LM2904MX
LM2904M		LM2904MX
LM2904MX		LM2904MX
LM358AM		LM2904MX
LM358AMX		LM2904MX
LM358M		LM2904MX
LM358MX		LM2904MX
LM393AM		LM2904MX
LM393AMX		LM2904MX
LM393M		LM2904MX
LM393MX		LM2904MX
LP2951CM		LP2951CMX
LP2951CMX		LP2951CMX