Title of Change:	Update to FPCN22191XE - SOIC-8 Insourcing to ON Semiconductor Philippines (OSPI) Factory from Hana Microelectronics (HANA) **or TongFu Microelectronics Co, Ltd (TFME)**
Proposed first ship date:	4 January 2019 or earlier with customer approval
Contact information:	Contact your local ON Semiconductor Sales Office or <Shannon.Riggs@onsemi.com>
Samples:	Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com> 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.
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or <Lalan.Ortega@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 W43 of 2018 or later may be built from either the current factory or from OSPI. 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. As per JESD97, May 2004, section 5 the following information will be included to indicate the appropriate Pb-free 2nd level interconnect: • Package labeling stating 'e4' will indicate the use of precious metals, no Sn • Package labeling stating 'e3' will indicate the use of Sn. All material sourced from OSPI will be of type e4. There will be no change to the eCAT of the existing source locations.

Change Category:
☐ Wafer Fab Change   ☑ Assembly Change   ☑ Test Change   ☐ Other _____

Change Sub-Category(s):

☑ Manufacturing Site Addition   ☑ Material Change   ☐ Datasheet/Product Doc change

☐ Manufacturing Site Transfer   ☐ Product specific change   ☑ Shipping/Packaging/Marking

☐ Manufacturing Process Change   ☐ Other: _____

Sites Affected:	ON Semiconductor Sites: ON Carmona, Philippines	External Foundry/Subcon Sites: Hana Microelectronics, Thailand TongFu Microelectronics Co. Ltd, China

Description and Purpose:

ON Semiconductor would like to inform our 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 upon effectivity, these products may be dual sourced from OSPI, or any of the previously qualified manufacturing locations, based on supply chain capacity requirements.

Consigned testers and handlers have been transferred to OSPI to support product testing. The same load boards, test programs and other necessary hardware will be used to test the affected products.

Bill-of-Material changes associated with this FPCN are shown below:

	Before Change Description (HANA)	After Change Description (OSPI)
LeadFrame	No Change	No Change
Die Attach	Henkel QMI519	Henkel SBP-8062T
Bond Wire	No Change	No Change
Mold Compound	CEL8240HF10LYR, HENKEL GR828FC1	EME G600
Jedec 2LI eCAT	No Change	No Change
	Before Change Description (TFME)	After Change Description (OSPI)
LeadFrame	Cu194, with matte Sn plating	Cu, NiPdAu preplated finish
Die Attach	Henkel Ablestik 8200T	Henkel SBP-8062T
Bond Wire	No Change	No Change
Mold Compound	Nitto MP8000CH4EN	EME G600
Jedec 2LI eCAT	e3	e4

Additionally, this FPCN serves to notify customers of a marking change for all affected products, for ALL manufacturing sites. The new marking will be of the form:

XXXXXXXXX
ALYWX

- 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   TFME: A = NF   OSPI: A = P

	To	From
OPN	Line 1 Marking	Line 2/3 Marking
LM2903M, LM2903MX	LM2903M	LM29 03M
LM2904M, LM2904MX	LM2904M	LM29 04M
LM358AM, LM358AMX	LM358AM	LM35 8AM
LM358M, LM358MX	LM358M	LM 358M
LM393AM, LM393AMX	LM393AM	LM39 3AM
LM393M, LM393MX	LM393M	LM 393M
LP2951CM, LP2951CMX	LP2951CM	LP29 51CM

Reliability Data Summary:

QV DEVICE NAME: LM2904MX
RMS: K44373, O45110
PACKAGE: SOIC 8

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: LP2951CMX
RMS: K44371, O45090
PACKAGE: SOIC 8

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: FAN7527BMX
RMS K43325, O44719
PACKAGE SOIC 8

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	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