



<b>Title of Change:</b>	SOIC-8 Insourcing to ON Semiconductor Philippines (OSPI) Factory from HANA (Thailand)	
<b>Proposed first ship date:</b>	28 June 2018	
<b>Contact information:</b>	Contact your local ON Semiconductor Sales Office or <ramilangelo.nonato@onsemi.com>	
<b>Samples:</b>	Contact your local ON Semiconductor Sales Office	
<b>Additional Reliability Data:</b>	Contact your local ON Semiconductor Sales Office or <Lalan.Ortega@onsemi.com>	
<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. 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>.	
<b>Change Part Identification:</b>	Product marked with date code 1812 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 <a href="http://www.onsemi.com/pub/Collateral/LABELRM-D.PDF">http://www.onsemi.com/pub/Collateral/LABELRM-D.PDF</a> to see the location of the ASSY LOC.	
<b>Change category:</b>	<input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input type="checkbox"/> Other _____	
<b>Change Sub-Category(s):</b>	<input checked="" type="checkbox"/> Manufacturing Site Change/Addition <input checked="" type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input checked="" type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____	
<b>Sites Affected:</b>	ON Semiconductor Sites: ON Carmona, Philippines	External Foundry/Subcon Sites: HANA, Thailand
<b>Description and Purpose:</b>		
<p>This Final Notification announces to customers ON Semiconductor's plans to expand Assembly and Test operations of former Fairchild SO8 packaged products to an existing internal manufacturing site in OSPI, Philippines. 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, Philippines.</p> <p>MOSFETs will be qualified and released with Copper wire as part of this expansion in OSPI, Philippines (as per table in List of affected parts).</p> <p>OSPI is certified with ISO9001:2015 and IATF 16949 and is currently running production for SO8 package and Copper Wire. These products are currently using Copper wire at HANA. These products will continue being Pb-free, Halide free and RoHS compliant. Qualification tests are designed to show that the reliability of the transferred devices will continue to meet or exceed ON Semiconductor standards.</p> <p>BOM changes associated with this FPCN are shown here:</p>		
	<b>Before Change Description</b>	<b>After Change Description</b>
Lead frame	RPPF	RPPF (No change)
Mold Compound	HITACHI CEL8240HF10LYR	Sumitomo G600F
Die Attach	Henkel QMI 519	Henkel ABP8062T
Wire size and Material	2 mil Cu	2 mil Cu (No change)



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



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.

OPN	Line 1 Marking
FDS86106	FDS86106
FDS86140	FDS86140
FDS86141	FDS86141
FDS86240	FDS86240
FDS86242	FDS86242
FDS86252	FDS86252
FDS89141	FDS89141
FDS89161	FDS89161



## Reliability Data Summary:

QV DEVICE NAME: **FDS86240**  
 RMS: **P42846, O41790, P40040**  
 PACKAGE: **SOIC 8**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta = 150°C, 80% max rated V	1008 hrs	0/80
HTGB	JESD22-A108	Ta = 150°C, 100% max rated Vgss	1008 hrs	0/80
HTSL	JESD22-A103	Ta = 150°C	2016 hrs	0/80
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2.0 min	30000 cyc	0/80
TC	JESD22-A104	Ta= -55°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	-	0/22
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 TC1000 cycles	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
ED	Tri Temperature Characterization, Per 48A	Temp at 25°C, -55°C, 150°C with Thermal Resistance (Rth)	-	Passed

QV DEVICE NAME: **FDS8978**  
 RMS: **O40037, O44191**  
 PACKAGE: **SOIC 8**

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta = 150°C, 80% max rated V	1008 hrs	0/80
HTGB	JESD22-A108	Ta = 150°C, 100% max rated Vgss	1008 hrs	0/80
HTSL	JESD22-A103	Ta = 150°C	2016 hrs	0/80
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2.0 min	30000 cyc	0/80
TC	JESD22-A104	Ta= -55°C to +150°C	2000 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 TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/2
ED	Tri Temperature Characterization, Per 48A	Temp at 25°C, -55°C, 150°C with Thermal Resistance (Rth)	-	Passed



QV DEVICE NAME: FDS6681Z  
 RMS: S42844, O44558, S40038  
 PACKAGE: SOIC 8

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta = 150°C, 80% max rated V	1008 hrs	0/84
HTGB	JESD22-A108	Ta = 150°C, 100% max rated Vgss	1008 hrs	0/84
HTSL	JESD22-A103	Ta = 150°C	2016 hrs	0/84
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2.0 min	30000 cyc	0/84
TC	JESD22-A104	Ta= -55°C to +150°C	2000 cyc	0/84
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	192 hrs	0/83
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/84
PC	J-STD-020 JESD-A113	MSL 1 @260°C	-	0/335
SAT	JEDEC STD 035	Pre and Post MSL 1	-	0/22
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 TC1000 cycles	-	0/5
CDPA	MILSTD750 Method 2037	Wire Pull after HTSL 1008hrs	-	0/5
DPA	AEC Q101-004 Section 4	Destructive Physical Analysis after TC1000 cycles	-	0/3
ED	Tri Temperature Characterization, Per 48A	Temp at 25°C, -55°C, 150°C with Thermal Resistance (Rth)	-	Passed

**Electrical Characteristic Summary:**

The temperature characterization meet datasheet specification. Electrical characteristics are not impacted. Detail of Electrical characterization result is available upon request.

**List of Affected Standard Parts:**

Part Number	Qualification Vehicle
FDS86106	FDS86240
FDS86140	
FDS86141	
FDS86240	
FDS86242	
FDS86252	
FDS89141	
FDS89161	

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## Appendix A: Changed Products

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Product	Customer Part Number	Qualification Vehicle
FDS86106		FDS86240
FDS86140		FDS86240
FDS86141		FDS86240
FDS86240		FDS86240
FDS86242		FDS86240
FDS86252		FDS86240
FDS89141		FDS86240
FDS89161		FDS86240