



Title of Change:	Capacity expansion for TSSOP14/16 Products into ASE Kunshan, China	
Proposed first ship date:	28 August 2015	
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 approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <PCN.Support@onsemi.com>.	
Change Part Identification:	Upon expiration of this notification devices may be shipped from any qualified manufacturing location. Manufacturing traceability will be encoded in the device marking, as well as on product labeling, to allow identification of the assembly source. There will be no change to the part number.	
Change category(s):	<input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input checked="" type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Material Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Datasheet/Product Doc change <input type="checkbox"/> Shipping/Packaging/Marking <input type="checkbox"/> Other: _____	
Sites Affected:	<u>Site 1</u>	<u>Site 2</u>
<input type="checkbox"/> All site(s) <input type="checkbox"/> not applicable <input type="checkbox"/> ON Semiconductor site(s) : <input checked="" type="checkbox"/> External Foundry/Subcon site(s):	Advanced Semiconductor Engineering Kunshan	
Description and Purpose:		
ON Semiconductor is qualifying additional assembly and test manufacturing capacity for TSSOP14/16 products in ASE Kunshan, China (ASEKS). ASEKS is a fully qualified manufacturing facility and is currently qualified for SOIC8-16 and PDIP8 assembled products. This is the final PCN providing the details pertinent to the change. This change represents capacity expansion, and upon expiration of the PCN product may be sourced from ASEKS, or any of the previously approved manufacturing locations.		



Reliability Data Summary:

#	Test	Name	Test Conditions	End Point Req's	Test Results (rej/ss)				
					Read Point	Lot A	Lot B	Lot C	Lot 2
1	Prep	Sample preparation and initial part testing	Various	---	Initial Electrical	Done	Done	Done	Done
	PC	MSL1 Preconditioning	3x IR @ 260 deg C	c = 0, Room	Post Electrical	0/240	0/240	0/240	0/240
	SAT	Scanning Acoustic Tomography	Compare for Delamination before and after PC	Compare to existing data	Inspection Result	0/75	0/75	0/75	24/75 ¹
2	TC-PC	Temp Cycle + Preconditioning	Temp = - 65°C to +150°C; For 500 cycles	c = 0, Room Hot	500 cyc	0/80	0/80	0/80	0/80
					1000 cyc	0/80	0/80	0/80	0/80
					1500 cyc	0/80	0/80	0/80	0/80
					2000 cyc	0/80	0/80	0/80	0/80
CDPA	Custom Destructive Physical Analysis	Wire Bond Pull Test following 500 cyc TC + PC	Minimum 3.0 grams; Cpk > 1.33	60 bonds minimum	0/5	0/5	0/5	0/5	
3	HAST-PC	Biased Highly Accelerated Stress Test + Preconditioning	Temp = 130°C RH = 85% Pressure = 18.8 psig For 96 hours	c = 0, Room Hot	96 hrs	0/80	0/80	0/80	0/80
					192 hrs	0/80	0/80	0/80	0/80
4	UHAST-PC	Unbiased Highly Accelerated Stress Test + Preconditioning	Temp = +130°C; RH = 85% Pressure = psig ~18.8 For 96 hours	c = 0, Room	96 hrs	0/80	0/80	0/80	0/80
					192 hrs	0/80	0/80	0/80	0/80
5	HTSL	High Temperature Storage Life	Temp = +150°C for 1008 hrs	c = 0, Room, Hot	504 hrs	0/80	0/80	0/80	0/80
					1008 hrs	0/80	0/80	0/80	0/80
					1512 hrs	0/80	0/80	0/80	0/80
					2016 hrs	0/80	0/80	0/80	0/80
	CDPA	Custom Destructive Physical Analysis	Wire pull test. >50% average of the initial wire pull requirements.	Minimum 3.0 grams; Cpk > 1.33	60 bonds minimum	0/5	0/5	0/5	0/5
	CDPA	Custom Destructive Physical Analysis	Perform CDPA cross-section for IMC inspection only Cu	N/A	Inspection Results	0/2	0/2	0/2	0/2
DPA	Destructive Physical Analysis	SEM inspection on ball and stitch formation for Cu	N/A	Inspection Results	0/2	0/2	0/2	0/2	
6	HTOL	High Temperature Operating Life	Temp = 125°C; For 1008 hours	c = 0, Room, Hot	1000 hrs	0/80	0/80	0/80	0/80
7	PD	Physical Dimensional Inspection	Per case outline	Cpk > 1.33	Inspection Results	0/10	0/10	0/10	0/10
8	SD	Solderability Test	At first steam aging = 8hrs (93C) Solderability = 245C, T=10 seconds	95% lead coverage on critical area	Inspection Results	0/15	0/15	0/15	9/15

Note:

¹ Most parts from control lot incurred die paddle delamination after moisture resistance test. Since the package has no provision for down/ground bond and passed functional test after moisture preconditioning, the package is still considered passing.

Electrical Characteristic Summary:

Electrical characteristics and product performance continues to meet datasheet specifications. Electrical characteristics remain unchanged.



List of Affected Standard Parts:

74FST3257DTR2G	MC74HC112ADTR2G	MC74HC4053ADTG
LM224DTBR2G	MC74HC11ADTG	MC74HC4053ADTR2G
LM239DTBR2G	MC74HC11ADTR2G	MC74HC4060ADTG
LM2901DTBR2G	MC74HC125ADTG	MC74HC4060ADTR2G
LM2901VDTBR2G	MC74HC125ADTR2G	MC74HC4066ADTR2G
LM2902DTBR2G	MC74HC126ADTR2G	MC74HC4094ADTG
LM2902VDTBR2G	MC74HC132ADTG	MC74HC4094ADTR2G
LM324ADTBR2G	MC74HC132ADTR2G	MC74HC4538ADTR2G
LM324DTBR2G	MC74HC138ADTR2G	MC74HC4851ADTR2G
LM324DTBR2GH	MC74HC139ADTR2G	MC74HC4852ADTR2G
LM339DTBR2G	MC74HC14ADTG	MC74HC589ADTR2G
M74HCT4066ADTR2G	MC74HC14ADTR2G	MC74HC595ADTG
M74HCT4094ADTR2G	MC74HC151ADTG	MC74HC595ADTR2G
M74HCT4851ADTR2G	MC74HC151ADTR2G	MC74HC595ADTR2H
M74HCT4852ADTR2G	MC74HC153ADTG	MC74HC597ADTG
MC14001BDTR2G	MC74HC153ADTR2G	MC74HC597ADTR2G
MC14011BDTR2G	MC74HC157ADTR2G	MC74HC73ADTG
MC14013BDTR2G	MC74HC160ADTG	MC74HC73ADTR2G
MC14040BDTR2G	MC74HC160ADTR2G	MC74HC74ADTR2G
MC14049UBDTR2G	MC74HC161ADTG	MC74HC86ADTR2G
MC14050BDTG	MC74HC161ADTR2G	MC74HCT04ADTR2G
MC14050BDTR2G	MC74HC163ADTG	MC74HCT08ADTG
MC14051BDTR2G	MC74HC163ADTR2G	MC74HCT08ADTR2G
MC14052BDTR2G	MC74HC164ADTR2G	MC74HCT125ADTG
MC14053BDTR2G	MC74HC165ADTR2G	MC74HCT125ADTR2G
MC14060BDTR2G	MC74HC174ADTR2G	MC74HCT132ADTG
MC14066BDTR2G	MC74HC175ADTR2G	MC74HCT132ADTR2G
MC14069UBDTR2G	MC74HC20ADTG	MC74HCT138ADTR2G
MC14071BDTG	MC74HC20ADTR2G	MC74HCT14ADTR2G
MC14071BDTR2G	MC74HC238ADTG	MC74HCT20ADTG
MC14081BDTR2G	MC74HC238ADTR2G	MC74HCT20ADTR2G
MC14093BDTR2G	MC74HC251ADTG	MC74HCT259ADTG
MC14094BDTR2G	MC74HC251ADTR2G	MC74HCT259ADTR2G
MC14106BDTR2G	MC74HC259ADTG	MC74HCT32ADTR2G
MC14504BDTG	MC74HC259ADTR2G	MC74HCT365ADTG
MC14504BDTR2G	MC74HC30ADTG	MC74HCT365ADTR2G
MC14538BDTR2G	MC74HC30ADTR2G	MC74HCT366ADTG
MC14541BDTR2G	MC74HC32ADTR2G	MC74HCT366ADTR2G
MC14584BDTR2G	MC74HC365ADTG	MC74HCT4066ADTG
MC3302DTBR2G	MC74HC365ADTR2G	MC74HCT4094ADTG



MC33204DTBR2G	MC74HC367ADTG	MC74HCT4851ADTG
MC33204DTBR2GH	MC74HC367ADTR2G	MC74HCT4852ADTG
MC74HC00ADTR2G	MC74HC368ADTG	MC74HCT595ADTG
MC74HC02ADTR2G	MC74HC368ADTR2G	MC74HCT595ADTR2G
MC74HC03ADTR2G	MC74HC390ADTR2G	MC74HCT86ADTR2G
MC74HC04ADTR2G	MC74HC393ADTR2G	MC74HCU04ADTR2G
MC74HC05ADTG	MC74HC4020ADTR2G	NLSF595DTR2G
MC74HC05ADTR2G	MC74HC4040ADTR2G	NLSV4T240EDTR2G
MC74HC08ADTR2G	MC74HC4051ADTG	NLSV4T244DTR2G
MC74HC10ADTG	MC74HC4051ADTR2G	NLSV4T244EDTR2G
MC74HC10ADTR2G	MC74HC4052ADTG	NLSX4014DTR2G
MC74HC112ADTG	MC74HC4052ADTR2G	NLSX5014DTR2G