onsemi

Final Product/Process Change Notification Document #:FPCN25336XA Issue Date:14 Dec 2023

Title of Change:	Qualification Assembly site in UTAC Thailand for FSA3157L6X and NC7SZ66L6X		
Proposed First Ship date:	21 Mar 2024 or earlier if approved by customer		
Contact Information:	Contact your local onse	mi Sales Office or mitch.paris@onsemi.com	
PCN Samples Contact:	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.		
Additional Reliability Data:	Contact your local onsemi 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. 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 PCN.Support@onsemi.com		
Marking of Parts/ Traceability of Change:	The affected products will be identified with date code		
Change Category:	Assembly Change		
Change Sub-Category(s):	Material Change, Manufacturing Site Transfer		
Sites Affected:			
onsemi Sites		External Foundry/Subcon Sites	

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Description and Purpose:

onsemi is announcing the qualification of new assembly site UTAC Thailand which includes new die attach, mold compound, package substrate and Carrier tape for FSA3157L6X and NC7SZ66L6X.

UTAC, Thailand

Product material change description:

	From	То
Assembly Site	HANA Thailand	UTAC Thailand
Die Attach	DA FILM LI LE5003 P8AS 100ST	DAF HR5104
Mold Compound	MC NITTO GE100LFCG 14MMX4.6G	Kyosera / KE-G1250LKDS-30 BU10C
Package Substrate	PS LGAB LOGIC KINSUS	FAST PRINT LGA SUBSTRATE
Carrier tape	Carrier tape for package thickness at 0.55 max	Carrier tape for package thickness at 0.68 max
MPQ/ PCQ	5,000 pcs	3,000 pcs
Packing PIN 1 orientation	Q3	Q1



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• For FSA3157L6X, NC7SZ66L6X

Dimension	HANA [.]	Thailand (e>	kisting)	UTAC Thailand (new site)		d (new	Remark
	Min	Nom	Max	Min	Nom	Max	
Α	0.45	0.50	0.55	0.58	0.63	0.68	UTAC thicker than HANA
							Outer lead smaller than existing but still can use the
L	0.25	0.30	0.35	0.20	0.25	0.30	same footprint.
							Outer lead smaller than existing but still can use the
L1	0.30	0.35	0.40	0.25	0.30	0.35	same footprint.
K	-	0.05	-	-	0.10	-	Still can use the same footprint.

HANA Thailand



UTAC Thailand

0.15

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0.63±0.05

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 -1.00 ± 0.05

POD IN SIDE VIEW

ONS: 6L LGA 1.00x1.45 / 0.50 mm Pitch ROUTING LAYOUT POD IN BOTTOM VIEW



0.30±0.05 (5x)

0.35±0.05-

-0.05 REF

-0.20±0.05

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DESIGN NOTES:

 Substrate drawing will commence once net list provided.
 Customer to check if we can use a 0.45 mm mold (existing) however package height requirement is sightly beynof astament" spec.
 Process team to perform detailed risk assessment and process characterization.

4. May require to apply BSOB process.

5. Proposed to increate substrate thickness to 0.180 mm. for prevent warpage issue.

There is no product marking change for this type of change.



Reliability Data Summary:

QV DEVICE NAME: <u>FSA3157L6X</u> RMS: <u>S86640, S89551, O91426</u> PACKAGE: <u>SIP 6L LGA 1.45x1.00 mm</u>

Test	Specification	Condition	Interval	Test Result
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/231
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260 °C		0 / 693
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc	0/231
Highly Accelerated Stress Test	JESD22 A110	TA= +130°C, RH = 85%, PSIG= 18.8, bias	96 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	T= +130°C, RH=85%, p = 18.8 psig unbiased	96 hrs	0/231
Solderability	JSTD002	Ta = 245°C, 5 sec		0 / 45
Physical Dimensions	JESD22-B120			0 / 30

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

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
NC7SZ66L6X	FSA3157L6X
FSA3157L6X	FSA3157L6X