

PCN Number:	20170928002		PCN Date:	Oct. 2, 2017																
Title:	Qualification of Carsem Suzhou (CSZ) as additional Assembly and Test Site for Select Devices																			
Customer Contact:	PCN Manager		Dept:	Quality Services																
Proposed 1st Ship Date:	Jan 2, 2018		Estimated Sample Availability:	Date Provided at Sample request																
Change Type:																				
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>																
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>																
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>																
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>																
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>																
				<input type="checkbox"/>																
				Wafer Bump Site																
				Wafer Bump Material																
				Wafer Bump Process																
				Wafer Fab Site																
				Wafer Fab Materials																
				Wafer Fab Process																
PCN Details																				
Description of Change:																				
Qualification of Carsem Suzhou (CSZ) as additional Assembly and Test Site for Select Devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.																				
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>TI Clark</td> <td>QAB</td> <td>PHL</td> <td>Angeles City, Pampanga</td> </tr> <tr> <td>TI Malaysia</td> <td>MLA</td> <td>MYS</td> <td>Kuala Lumpur</td> </tr> <tr> <td>Carsem Suzhou</td> <td>CSZ</td> <td>CHN</td> <td>Jiangsu</td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	TI Clark	QAB	PHL	Angeles City, Pampanga	TI Malaysia	MLA	MYS	Kuala Lumpur	Carsem Suzhou	CSZ	CHN	Jiangsu
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City																	
TI Clark	QAB	PHL	Angeles City, Pampanga																	
TI Malaysia	MLA	MYS	Kuala Lumpur																	
Carsem Suzhou	CSZ	CHN	Jiangsu																	
Group 1 Material Differences:																				
	TI Clark	TI Malaysia	Carsem Suzhou																	
Mount compound	4207768	4207768	435143																	
Group 2 Material Differences:																				
	TI Malaysia	Carsem Suzhou																		
Mount compound	4207768	435143																		
Wire type	Au	Cu																		
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.																				
Reason for Change:																				
Continuity of Supply																				
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):																				
None																				
Anticipated impact on Material Declaration																				
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI Eco-Info website . There is no impact to the material meeting current regulatory compliance requirements with this PCN change.																	
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):																				
None																				
Changes to product identification resulting from this PCN:																				

Assembly Site		
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB
TI Malaysia	Assembly Site Origin (22L)	ASO: MLA
Carsem Suzhou	Assembly Site Origin (22L)	ASO: CSZ

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 2Q:
 MSL 2 /260C/1 YEAR SEAL DT
 MSL 1 /235C/UNLIM 03/29/04
 OPT:
 ITEM: 39
LBL: 5A (L)T0:1750

(1P) SN74LS07NSR
 (Q) 2000 (D) 0336
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483SI2
 (P)
 (2P) REV: (V) 0033317
 (20L) CSO: SHE (21L) CCO:USA
 (22L) ASO: MLA (23L) ACO: MYS

ASSEMBLY SITE CODES: TI-Clark = I, TI-Malaysia = I, Carsem Suzhou = F

Group 1 Product Affected:

AFE031AIRGZR	AFE031AIRGZT	TPS53316RGTR	TPS53316RGTT
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Group 2 Product Affected:

THS6212IRHFR	THS6212IRHFT	THS6214IRHFR	THS6214IRHFT
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Group 1 Qualification Report

Qualify RGZ/RGT QFN packages in CARZ

Approve Date 26-Sep-2017

Product Attributes

Attributes	Qual Device: AFE031AIRGZ	Qual Device: TPS53316RGTR
Assembly Site	CARZ	CARZ
Package Family	QFN 7.0 X 7.0 (MM)	QFN 3.0 X 3.0 (MM)
Wafer Fab Supplier	DP1-DM5	MH8
Wafer Process	50HPA07X3	LBC7

- QBS: Qual By Similarity

- Qual Device AFE031AIRGZ is qualified at LEVEL2-260CG

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: AFE031AIRGZ	Qual Device: TPS53316RGTR
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass
MQ	Manufacturability	(per mfg. Site specification)	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	2/154/0	-
YLD	FTY and Bin Summary	--	Pass	Pass

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
 - The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours
 - The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles
- Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Group 2 Qualification Report

THS6212IRHFR/THS6214IRHFR Qualification in CARZ

Approve Date 27-Sep-2017

Product Attributes

Attributes	Qual Device: THS6212IRHFR	Qual Device: THS6214IRHFR	QBS Product Reference: THS6212IRHF	QBS Product Reference: THS6214IPWP	QBS Process Reference: TNETD7122APAP
Assembly Site	CARSEM SUZHOU	CARSEM SUZHOU	MLA	MLA	TAI
Package Family	VQFN	QFN	QFN	HTSSOP	HTQFP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	FFAB	FFAB	DFAB	DFAB	DFAB
Wafer Process	BICOM2HV	BICOM2HV	BICOM2XHV	BICOM2XHV	BICOM2XHV

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL2-260C: THS6212IRHFR, THS6214IRHFR

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: THS6212IRHFR	Qual Device: THS6214IRHFR	QBS Product Reference: THS6212IRHF	QBS Product Reference: THS6214IPWP	QBS Process Reference: TNETD7122APAP
AC	Autoclave 121C	96 Hours	-	-	-	-	3/105/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/230/0	-	-	3/105/0
HBM	ESD - HBM	2000 V	-	-	1/3/0	1/3/0	-
CDM	ESD - CDM	500 V	-	-	1/3/0	-	-
HTOL	Life Test, 125C	967 Hours	-	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-	3/105/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0	-	-	-
LU	Latch-up	(per	-	-	1/6/0	2/12/0	3/15/0

		JESD78)					
PD	Physical Dimensions	--	1/5/0	2/10/0	-	-	-
SD	Solderability	Pb Free	-	3/66/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	-	-	3/105/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-	-	3/105/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	3/231/0	-	-	-
WBP	Bond Pull	Wires	1/76/0	3/228/0	-	-	-
WBS	Ball Bond Shear	Wires	1/76/0	3/228/0	-	-	-

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

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- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com