

PCN Number:	20190624001.1		PCN Date:	July 1, 2019	
Title:	Qualification of Carsem Suzhou as an additional Assembly and Test Site and for Select Devices				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	Oct 1, 2019	Estimated Sample Availability:	Provided upon Request		
Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
PCN Details					
Description of Change:					
Texas Instruments is pleased to announce the qualification of Carsem Suzhou as an additional Assembly and test site for the device shown in the product affected section below. Construction differences are as follows:					
Group 1 Devices:					
	What	CDAT	CARZ		
	Mount Compound	4207123	SID#443156		
	Mold Compound	4222198	SID#441086		
	Lead Finish	NiPdAu	NiPdAuAg		
Group 2 Devices:					
	What	MLA	CRS	CARZ	
	Mount Compound	4207768	435143	SID#443156	
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.					
Reason for Change:					
Continuity of Supply					
Anticipated impact on Fit, Form, 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.		
Changes to product identification resulting from this PCN:					
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (21L)	Assembly City		
TI Malaysia	MLA	MYS	Kuala Lumpur		
Carsem S	CRS	MYS	Jelapang		
TI Chengdu	CDA	CHN	Chengdu		

Carsem Suzhou	CSZ	CHN	Jiangsu
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Sample product shipping label (not actual product label)



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)TO: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

Group 1 Product Affected

BQ25601RTWR	BQ25601RTWT
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Group 2 Product Affected

TPS61187RTJR	TPS61187RTJT
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Group 1 Qualification Report

Approve Date 13-Jun-2019



TI Information
Selective Disclosure

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ25601RTW	QBS Product Reference: BQ25601RTW	QBS Process Reference: TPS2543ORTE	QBS Process Reference: TPS53679 PG1.2	QBS Process Reference: TPS56C215RN N PG1.0	QBS Package Reference: 2ELVC412CDRTJR
AC	Autoclave 121C	96 Hours	-	-	3/231/0	1/77/0	-	3/231/0
ED	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	-	-	3/90/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	-	-	-
EDR	EEPROM Data Retention, 170C	420 Hours	-	-	-	-	-	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	3/2640/0	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-	-	-
HBM	ESD - HBM	4000 V	-	1/3/0	1/3/0	-	-	-
CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	1/77/0	-
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0	2/154/0	-	-
HTSL	High Temp. Storage Bake, 170C	1000 Hours	-	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	-	3/149/0	-	-	-
LU	Latch-up	(per JESD78)	-	1/6/0	1/6/0	1/6/0	-	-
PD	Physical Dimensions	--	1/5/0	-	3/90/0	-	-	-
SD	Solderability	8 Hours Steam Age	1/22/0	-	-	-	-	-
SD	Surface Mount Solderability	Pb Free	-	-	2/30/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	3/231/0	1/77/0	-	3/230/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	1/5/0	-	-
WBP	Bond Strength	Wires	1/76/0	-	-	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-	-	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: ONET8501P BRGTR	QBS Package Reference: SN1010017R SAR2-CU	QBS Package Reference: TLC5951RTA	QBS Package Reference: TLV75733PD RV	QBS Package Reference: TPS51123RG ER-CU	QBS Package Reference: TPS51728RH AR
AC	Autoclave 121C	96 Hours	3/231/0	4/308/0	-	-	4/308/0	3/228/0
ED	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	-	-	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	Pass	-	Pass	-
EDR	EEPROM Data Retention, 170C	420 Hours	-	-	-	Pass	-	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	-	-
HBM	ESD - HBM	4000 V	-	-	-	-	-	-
CDM	ESD - CDM	1500 V	-	-	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	1/77/0	-	4/148/0	-
HTOL	Life Test, 150C	300 Hours	-	-	-	3/231/0	-	-
HTSL	High Temp. Storage Bake, 170C	1000 Hours	3/230/0	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	4/308/0	1/50/0	3/231/0	3/230/0	3/231/0
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	-	-	-	-	-
LU	Latch-up	(per JESD78)	-	-	1/6/0	1/6/0	-	-
PD	Physical Dimensions	--	-	-	-	-	-	-
SD	Solderability	8 Hours Steam Age	-	-	-	-	-	-
SD	Surface Mount Solderability	Pb Free	-	-	3/15/0	-	6/132/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	4/308/0	3/231/0	3/231/0	4/308/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	2/154/0	3/231/0	-	-
WBP	Bond Pull	Wires	-	-	-	-	-	-
WBP	Bond Strength	Wires	-	-	3/108/0	-	-	-
WBS	Ball Bond Shear	Wires	-	-	3/108/0	-	-	-

Type	Test Name / Condition	Duration	QBS Package Reference: TPS53211RGRTR	QBS Package Reference: TPS62750DSKR-CU	QBS Package Reference: TPS650240RHB R-CU	QBS Package Reference: TPS65148RH BR-CU	QBS Package Reference: UCD9211RHAR
AC	Autoclave 121C	96 Hours	3/231/0	-	4/307/0	-	3/231/0
ED	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold Test	-	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-
EDR	EEPROM Data Retention, 170C	420 Hours	-	-	-	-	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	3/230/0	-	-	-	-
HBM	ESD - HBM	4000 V	-	-	-	-	-
CDM	ESD - CDM	1500 V	-	-	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-	-	-
HTSL	High Temp. Storage Bake, 170C	1000 Hours	3/231/0	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-	4/308/0	-	3/231/0
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	-	-	-	-
LU	Latch-up	(per JESD78)	-	-	-	-	-
PD	Physical Dimensions	--	-	-	-	-	-
SD	Solderability	8 Hours Steam Age	-	-	-	-	-
SD	Surface Mount Solderability	Pb Free	-	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	4/308/0	-	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	-	-
WBP	Bond Strength	Wires	-	-	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-	-	-

- QBS: Qual By Similarity

- Qual Device BQ25601RTW is qualified at LEVEL2-260C

- 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 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

Approve Date 24-June-2019

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS61187RTJR	QBS Process Reference: TPS2543QRTE	QBS Package Reference: TPS25221DRVR
AC	Autoclave, 2 atm, 121C	96 Hours	-	3/231/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
HBM	ESD - HBM	4000 V	-	1/3/0	-
CDM	ESD - CDM	1000 V	-	1/3/0	-
HTOL	Life Test, 150C	300 Hours	-	3/231/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 175C	500 Hours	-	3/135/0	-
LU	Latch-up	(per JESD78)	-	1/6/0	-
MQ	Assembly Site	Per Mfg Site Specification	Pass	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	-	3/231/0	3/231/0
UHASt	Unbiased HAST, 130C/85%RH	96 Hours	-	-	3/231/0

- QBS: Qual By Similarity

- Qual Device TPS61187RTJR is qualified at LEVEL 2-260C

- 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.

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "<http://www.ti.com/lsds/ti/legal/termssofsale.page>"

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