

PCN Number:	20210426000.1A		PCN Date:	August 04, 2021	
Title:	Qualification of CDAT as an alternate Assembly site for Select Devices				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	Aug. 4, 2021	Estimated Sample Availability:	Date provided at sample 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 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:					
<p>Revision A is to announce the <u>addition</u> of new devices that were not included on the original PCN notification. These new devices are highlighted and bolded in the device list below. The expected first shipment date for these new devices will be 90 days from this notice for these newly added devices only.</p> <p>Texas Instruments Incorporated is announcing the qualification of CDAT as an additional Assembly site for the list of devices shown below. Construction differences between the 2 sites are as follows:</p>					
		Clark	CDAT		
Mold Compound		4208625 or 4222198	4222198		
# Mount Compound		4207768	4207123		
# - applies to BQ294713DSGR/T only					
Reason for Change:					
Supply continuity					
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 at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp		
Changes to product identification resulting from this PCN:					
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City		
CLARK	QAB	PHL	Angeles City, Pampanga		
CDAT	CDA	CHN	Chengdu		
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

G4



(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

Product Affected:

BQ24311DSGR	BQ296106DSGT	LM27761DSGR	TPS70618DRVR
BQ24311DSGT	BQ296107DSGR	LM27761DSGT	TPS70618DRVT
BQ24314CDSGR	BQ296107DSGT	LM5165DRCR	TPS70625DRVR
BQ24314CDSGT	BQ296202DSGR	LM5165DRCT	TPS70625DRVT
BQ294682DRVR	BQ296202DSGT	LM5165XDRCR	TPS70628DRVR
BQ294682DRVT	BQ296203DSGR	LM5165XDRCT	TPS70628DRVT
BQ294700DSGR	BQ296203DSGT	LM5165YDRCR	TPS70630DRVR
BQ294700DSGT	BQ296216DSGR	LM5165YDRCT	TPS70630DRVT
BQ294701DSGR	BQ296216DSGT	LM5166DRCR	TPS70633DRVR
BQ294701DSGT	BQ296217DSGR	LM5166DRCT	TPS70633DRVT
BQ294702DSGR	BQ296217DSGT	LM5166XDRCR	TPS70925DRVR
BQ294702DSGT	BQ771600DPJR	LM5166XDRCT	TPS70925DRVT
BQ294704DSGR	BQ771600DPJT	LM5166YDRCR	TPS7A1901DRBR
BQ294704DSGT	BQ771601DPJR	LM5166YDRCT	TPS7A1901DRBT
BQ294705DSGR	BQ771601DPJT	SN1607002RUKR	TPS7A8300RGRR
BQ294705DSGT	BQ771800DPJR	TPS2549RTER	TPS7A8300RGRT
BQ294711DSGR	BQ771800DPJT	TPS2549RTET	TPS7A8400RGRR
BQ294711DSGT	BQ771806DPJR	TPS51275B-1RUKR	TPS7A8400RGRT
BQ294713DSGR	BQ771806DPJT	TPS51275B-1RUKT	TPS7A8500RGRR
BQ294713DSGT	BQ771808DPJR	TPS51285B-1RUKR	TPS7A8500RGRT
BQ296103DSGR	BQ771808DPJT	TPS51285B-1RUKT	UCC27611DRVR
BQ296103DSGT	BQ771815DPJR	TPS51312DRCR	UCC27611DRVT
BQ296106DSGR	BQ771815DPJT	TPS51312DRCT	

Qualification Report

Approve Date 12-Apr-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ294682DRVR	Qual Device: TPS706XXDRVR	Qual Device: TPS70925DRVR	QBS Package Reference: BQ294504DRVR	QBS Package Reference: MCS3010AIRGT	QBS Package Reference: TLV75733PDRV	QBS Package Reference: TMP117AIDRV
AC	Autoclave 121C	96 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	-	-	-
EDR	**EEPROM Data Retention 170C	420 Hours	QBS (1)	QBS (2)	QBS (3)	-	-	3/231/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	3/231/0	3/231/0	3/231/0
HTOL	Life Test, 150C	300 Hours	QBS (1)	QBS (2)	QBS (3)	-	-	-	3/231/0
HTSL	High Temp Storage Bake 150C	1000 Hours	QBS (1)	QBS (2)	QBS (3)	-	-	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	QBS (1)	QBS (2)	QBS (3)	-	3/231/0	3/231/0	-
TC	Temperature Cycle, - 65/150C	500 Cycles	QBS (1)	QBS (2)	QBS (3)	3/231/0	3/231/0	3/231/0	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	QBS (1)	QBS (2)	QBS (3)	-	3/231/0	3/231/0	3/231/0
YLD	Yield Evaluation	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass	Pass	Pass

- QBS: Qual By Similarity
- Qual Device BQ294682DRVR is qualified at LEVEL2-260C
- Qual Device TPS70925DRVR and TPS706XXDRVR are qualified at LEVEL1-260CG
- 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

Note:

- (1) BQ294682DRVR QBS's to BQ294504DRVR and TMP117AIDRV Package Reliability tests
- (2) TPS706XXDRVR, XX=18,25,28,30,33 QBS's to TLV75733PDRV Package Reliability tests and TMP117AIDRV HTOL
- (3) TPS70925DRVR QBS's to MCS3010AIRGT Package Reliability tests and TMP117AIDRV HTOL
- (4) Devices listed in PCN Product Affected will QBS to the Qual devices and their product attributes have been verified to be similar to Qual Devices.

Qualification Report

Approve Date 13-Apr-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ294700DSGT	Qual Device: BQ296103DSGT	Qual Device: BQ296202DSGT	QBS Package Reference: DRV8847RTE	QBS Package Reference: OPA2333PIDSG
AC	Autoclave 121C	96 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	Pass	Pass
ED	Electrical Characterization, side by side	25C	Pass	-	-	-	-
HAST	Biased HAST, 110C/85%RH	264 Hours	QBS (1)	QBS (2)	QBS (3)	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	-
HTOL	Life Test, 125C	1000 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	-
HTSL	High Temp Storage Bake 150C	1000 Hours	QBS (1)	QBS (2)	QBS (3)	3/231/0	-
HTSL	High Temp Storage Bake 170C	420 Hours	QBS (1)	QBS (2)	QBS (3)	-	3/231/0
YLD	Yield Evaluation	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass
TC	Temperature Cycle, -65/150C	500 Cycles	QBS (1)	QBS (2)	QBS (3)	3/231/0	3/231/0
UHAIST	Unbiased HAST 130C/85%RH	96 Hours	QBS (1)	QBS (2)	QBS (3)	-	3/231/0

- QBS: Qual By Similarity
- Qual Devices BQ294700DSGT, BQ296103DSGT and BQ296202DSGT are qualified at LEVEL2-260CG
- 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

Note:

- (1) BQ294700DSGT QBS's to DRV8847RTE and OPA2333PIDSG Package Reliability tests
- (2) BQ296103DSGT QBS's to DRV8847RTE and OPA2333PIDSG Package Reliability tests
- (3) BQ296202DSGT QBS's to DRV8847RTE and OPA2333PIDSG Package Reliability tests
- (4) Devices listed in PCN Product Affected will QBS to the Qual devices and their product attributes have been verified to be similar to Qual Devices

Qualification Report

Approve Date 01-Dec-2020

Qualification Results

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

Type	Test Name / Condition	Duration	QBS Product Reference: BQ771800DPJ	QBS Process Reference: TPS51217DSC	QBS Package Reference: BQ771811DPJ
AC	Autoclave 121C	96 hours	1/77/0	3/231/0	3/231/0
CDM	ESD - CDM	1500 V	-	3/9/0	1/3/0
HAST	Biased HAST 130C/85%RH	96 Hours	-	3/231/0	-
HBM	ESD - HBM	2000 V	-	3/9/0	-
HTSL	High Temp Storage Bake, 170C	420 Hours	-	3/231/0	-
LU	Latch-up	(per JESD78)	1/6/0	3/18/0	1/6/0
MSL	Thermal Path Integrity, JEDEC, L2	(MSL 2 / 260C)	-	-	3/36/0
PD	Physical Dimensions	(per mechanical drawing)	-	-	3/15/0
SD	Solderability	Steam age, 8 hours; PB-Free solder	-	-	3/66/0
TC	Temperature Cycle, -65/150C	500 cycles	1/77/0	3/231/0	3/231/0
XRAY	X-ray	(top side only)	-	3/15/0	3/15/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- QBS: Qual By Similarity
- Qual Device BQ771800DPJ is qualified at LEVEL2-260C
- 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



TI Information
Selective Disclosure

Qualification Report

Approve Date 01-Dec-2020

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BQ771802DPJ	Qual Device: BQ771809DPJ	Qual Device: BQ771817DPJ	QBS Product Reference: BQ771800DPJ	QBS Process Reference: TPS51217DSC	QBS Package Reference: BQ771811DPJ
-	Manufacturability (TQ - Testability)	(per mfg. Site specification)	1/Pass	1/Pass	1/Pass	-	-	1/Pass
AC	Autoclave 121C	96 hours	-	-	-	-	3/231/0	3/231/0
CDM	ESD - CDM	1500 V	-	-	-	-	3/9/0	-
DS	Die Shear	QSS 009-009	-	-	-	-	-	3/30/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	1/Pass	3/60/0	1/Pass
HAST	Biased HAST 130C/85%RH	96 Hours	-	-	-	-	3/231/0	-
HBM	ESD - HBM	2000 V	-	-	-	-	3/9/0	-
HTSL	High Temp Storage Bake, 170C	420 Hours	-	-	-	-	3/231/0	-
LU	Latch-up	(per JESD78)	-	-	-	1/6/0	3/18/0	1/6/0
MSL	Thermal Path Integrity, JEDEC, L2	(MSL 2 / 260C)	-	-	-	-	-	3/36/0
PD	Physical Dimensions	(per mechanical drawing)	-	-	-	-	-	3/15/0
SD	Solderability	Steam age, 8 hours, PB-Free solder	-	-	-	-	-	3/66/0
TC	Temperature Cycle - 65/150C	500 Cycles	-	-	-	1/77/0	3/231/0	3/231/0
WBP	Bond Pull	76 Wires, 3 units min	-	-	-	-	-	3/228/0
WBS	Ball Bond Shear	76 balls, 3 units min	-	-	-	-	-	3/228/0
XRAY	X-ray	(top side only)	-	-	-	-	3/15/0	3/15/0

- 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
 - QBS: Qual By Similarity
 - Qual Device BQ771802DPJ is qualified at LEVEL2-260C
 - Qual Device BQ771809DPJ is qualified at LEVEL2-260C
 - Qual Device BQ771817DPJ is qualified at LEVEL2-260C

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

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Asia Pacific	PCNAsiaContact@list.ti.com
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