

PCN Number:	20181211000.1		PCN Date:	Dec 13, 2018	
Title:	Qualify New Assembly Material set for Select Device(s)				
Customer Contact:	PCN Manager		Dept:	Quality Services	
Proposed 1st Ship Date:	Mar 13, 2019		Estimated Sample Availability:	Date provided at sample request	
Change Type:					
<input 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:					
Texas Instruments is pleased to announce the qualification of new assembly material for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows:					
		Current		Proposed	
	Mount compound	00101335950		101339368	
	Mold Compound	101323397		101376660	
	Lead frame finish	NiPdAu		NiPdAu (Single side roughened)	
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.		
Changes to product identification resulting from this PCN:					
None					
Product Affected:					
CXD9883AMDKDR	TAS5142DKD	TAS5261DKD	TAS5630DKD		
DRV8402DKD	TAS5142DKDR	TAS5261DKDR	TAS5630DKDR		
DRV8402DKDR	TAS5152DKD	TAS5261DKDRG4	TAS5631DKD		
PCXD9883MDKDR	TAS5152DKDG4	TAS5615DKD	TAS5631DKDR		
TAS5121IDKD	TAS5152DKDR	TAS5615DKDR			
TAS5121IDKDE4	TAS5162DKD	TAS5616DKD			
TAS5121IDKDR	TAS5162DKDR	TAS5616DKDR			

Qualification Report

Approve Date 26-Nov-2018

Qualification Results

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

Type	Test Name / Condition	Duration	QBS Device: TAS5424BTDKERQ1	QBS Device: TAS5424BTDKDRQ1	QBS Device: CODPHDP2DKAR
THB/ HAST	Temperature-Humidity-Bias or Biased HAST, 130C	96 Hours	3/231/0	3/231/0	3/231/0
AC/ UHAST	Autoclave or Unbiased HAST Or Temperature-Humidity, 121C	96 Hours	3/231/0	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0
TC-BP	Post Temp. Cycle, Bond Pull	Wires	3/180/0	1/60/0	3/180/0
PTC	Power Temperature Cycle, -40C/105C	1000 Cycles	1/45/0	1/45/0	-
HTSL	High Temperature Storage Life, 150C	1000 Hours	3/135/0	3/135/0	-
HTOL	High Temperature Operating Life, 125C	1000 Hours	3/231/0	-	1/77/0
ELFR	Early Life Failure Rate, 150C	24 Hours	3/2400/0	-	3/2400/0
WBS	Bond Shear, (Cpk>1.67)	Wires	3/90/0	-	-
WBP	Bond Pull, (Cpk>1.67)	Wires	3/90/0	-	-
SD	Surface Mount Solderability >95% Lead Coverage	8 Hours Steam Age	1/15/0	-	-
PD	Physical Dimensions, (Cpk>1.67)	--	3/30/0	-	-
HBM	Electrostatic Discharge Human Body Model	2000V	-	-	1/3/0
CDM	Electrostatic Discharge Charged Device Model	750V	-	1/3/0	1/3/0
ED	Electrical Distributions		-	-	3/90/0
MQ	Manufacturability (Assembly)	per site requirements	PASS	PASS	PASS
TIS	Thermal Integrity Sequence	L3-245C	3/36/0	-	-
MSL	Moisture Sensitivity	L4-260C	-	-	-
YLD	FTY & Bin Summary	-	-	-	-

Type	Test Name / Condition	Duration	QBS Device: CODC2PSA2DKPR	Qual Device: DRV8432DKDR
THB/ HAST	Temperature-Humidity-Bias or Biased HAST, 130C	96 Hours	-	-
AC/ UHASt	Autoclave or Unbiased HAST Or Temperature-Humidity, 121C	96 Hours	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/77/0
TC-BP	Post Temp. Cycle, Bond Pull	Wires	3/180/0	-
PTC	Power Temperature Cycle, -40C/105C	1000 Cycles	-	-
HTSL	High Temperature Storage Life, 150C	1000 Hours	-	-
HTOL	High Temperature Operating Life, 125C	1000 Hours	2/254/0	-
ELFR	Early Life Failure Rate, 150C	24 Hours	-	-
WBS	Bond Shear, (Cpk>1.67)	Wires	-	-
WBP	Bond Pull, (Cpk>1.67)	Wires	-	-
SD	Surface Mount Solderability >95% Lead Coverage	8 Hours Steam Age	-	-
PD	Physical Dimensions, (Cpk>1.67)	--	-	-
HBM	Electrostatic Discharge Human Body Model	2000V	1/3/0	-
CDM	Electrostatic Discharge Charged Device Model	750V	1/3/0	-
ED	Electrical Distributions		3/90/0	-
MQ	Manufacturability (Assembly)	per site requirements	PASS	PASS
TIS	Thermal Integrity Sequence	L3-245C	-	-
MSL	Moisture Sensitivity	L4-260C	-	3/12/0
YLD	FTY & Bin Summary	-	-	PASS

Notes: QBS: Qual By Similarity

- QBS Device TAS5424BTDKERQ1 is qualified at LEVEL3-245CG
- QBS Device TAS5424BTDKDRQ1 is qualified at LEVEL3-245CG
- QBS Device CODPHDP2DKAR is qualified at LEVEL3-260CG
- QBS Device CODC2PSA2DKPR is qualified at LEVEL3-260CG
- QBS Device DRV8432DKDR is qualified at LEVEL4-260CG

- 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 activation energy of 0.7eV: 125C/1000 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/1000 Hours, and 170C/420 Hours.

- The following are equivalent Temp Cycle options per JESD4: -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/lscds/ti/legal/termsofsale.page>"

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