PCN Number:		2015071300	0					PCN	Date:	07	/30/2015
Title: Qualification of		f NFME as ad	ditior	nal Asse	embly	and Test	t Site	for S	Select D	evice	S
Customer Contact:		CN Manager	De	ept:		Quality	Servio	ces			
Proposed 1 st		10/30/201	L5 I	Estimat	ted S	ample A	vaila	ability: Date Provided at Sample request			
Change Type:											
Assembly				Desig					Wafer		
	/ Process				Sheet	-				· · ·	Material
	/ Materials					er chang	e				Process
	al Specificat			Test				_	Wafer		
Packing/	Shipping/Lal	beling		Test	Proces	SS					aterials
									Wafer	Fab Pi	rocess
			F	PCN D	etail	S					
Description of			<u> </u>								
Qualification o			embl	y and T	est Si	ite for Se	elect D	evic	es. Ass	embly	[,] differences
are shown in t	the following	table:									
			EN				-		1		
	-										
Mour	nt compound	00030	.103.	32		A-03	3				
Assembly Site		Assembly S				Asse	embl	y Site (City		
LEN		Origin (22	L)	Со	de (2			Tair	chung		
NFME		LIN NFM		TWN CHN		Taichung Jiangsu					
NFME				CHN			JId	nysu			
Test coverage test MQ.	Test coverage, insertions, conditions will remain consistent with current testing and verified with test $M\Omega$										
Reason for C	hange:										
Continuity of Supply											
Anticipated impact on Material Declaration											
	No Impact to the Material Declarations or Product Content reports are driven from										
Material Declaration production data and will be available following the production											
release. Upon production release the revise			vised re	ports	can be						
obtained from the <u>TI ECO website</u> .											
Anticipated i	mpact on F	orm, Fit, Fu	Incti	on, Qua	ality	or Relia	bility	(pos	sitive ,	/ neg	ative):
None											
Changes to p	oroduct ide	ntification r	esul	ting fro	om th	is PCN:					



Qualification Data

NFME Qualification of the DBV packages using R-13 mold compound and A-03 mount compound

Product	Attributes
1100000	/

Attributes	Qual Device: INA168NA	Qual Device: OPA244NA			
Assembly Site	NFME	NFME			
Package Family	-	-			
Flammability Rating	UL 94 V-0	UL 94 V-0			
Wafer Fab Supplier	HFAB/SFAB	HFAB/SFAB			
Wafer Fab Process	634G	635G			

- QBS: Qual By Similarity

- Qual Device INA168NA is qualified at LEVEL2-260C

- Qual Device OPA244NA is qualified at LEVEL2-260C

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: INA168NA	Qual Device: OPA244NA	
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	
HTOL	Life Test, 125C	1000 Hours	1/77/0	1/77/0	
LI	Lead Fatigue	Leads	1/22/0	1/22/0	
LI	Lead Pull to Destruction	Leads	1/22/0	1/22/0	
MISC	Salt Atmosphere	24 Hours	1/22/0	1/22/0	
PD	Physical Dimensions		1/5/0	1/5/0	
PKG	Lead Finish Adhesion	Leads	1/15/0	1/15/0	
SD	Solderability	8 Hours Steam Age	-	1/22/0	

Туре	Test Name / Condition	Duration	Qual Device: INA168NA	Qual Device: OPA244NA
TC	Temperature Cycle -65/150C	500 Cycles	1/77/0	1/77/0

- 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

NFME Qualification of the DBV packages with R-13 mold compound

Product Attributes					
Attributes	Qual Device: OPA365AIDBV	Qual Device: THS4304DBV	Qual Device: THS9001DBV	Qual Device: TPS3809I50DBV	
Qual ID	20090808-8742	20090808-8742	20090808-8742	20090808-8742	
Assembly Site	NFME	NFME	NFME	NFME	
Package Family	SOT	SOT	SOT	SOT	
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	
Wafer Fab Supplier	DMOS5	FFAB	FFAB	DFAB	
Wafer Fab Process	50HPA07	BICOM3	RFSige	LBC3	

- QBS: Qual By Similarity

- Qual Device OPA365AIDBV is qualified at LEVEL1-260C

- Qual Device THS4304DBV is qualified at LEVEL1-260C

- Qual Device THS9001DBV is gualified at LEVEL1-260C

- Qual Device TPS3809I50DBV is qualified at LEVEL1-260C

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: OPA365AIDBV	Qual Device: THS4304DBV	Qual Device: THS9001DBV	Qual Device: TPS3809I50DBV
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	1/77/0	-
HTSL	High Temp Storage Bake 170C	420 Hours	1/77/0	1/74/0	1/77/0	-
LI	Lead Fatigue	Leads	1/22/0	1/22/0	1/22/0	1/22/0
LI	Lead Pull to Destruction	Leads	1/22/0	1/22/0	1/22/0	1/22/0
MISC	Salt Atmosphere	24 Hours	1/22/0	1/22/0	1/22/0	1/22/0
PD	Physical Dimensions		1/5/0	1/5/0	1/5/0	1/5/0
PKG	Lead Finish Adhesion	Leads	1/15/0	1/15/0	1/15/0	1/15/0
SD	Surface Mount Solderability	Pb Solder	1/22/0	1/22/0	1/22/0	1/22/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	1/77/0	1/77/0	-
TS	Thermal Shock -65/150C	500 Cycles	1/77/0	1/77/0	1/77/0	-
WBP	Bond Pull	Wires	1/78/0	1/78/0	1/78/0	1/78/0
WBS	Ball Bond Shear	Wires	1/78/0	1/78/0	1/78/0	1/78/0

- 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

NFME 5/6 DBV qualification using R-13 Mold Compound

Product Attributes

Attributes	Qual Device: SN74LVC2G17DBVR	Qual Device: TL431CDBVR			
Assembly Site	NFME	NFME			
Package Family	SOT	SOT			
Flammability Rating	UL 94 V 0	UL 94 V 0			
Wafer Fab Supplier	TID	SFAB			
Wafer Fab Process	ASL3C	JI BIPOLAR			

- QBS: Qual By Similarity

- Qual Device SN74LVC2G17DBVR is qualified at LEVEL1-260CG

- Qual Device TL431CDBVR is qualified at LEVEL1-260CG

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: SN74LVC2G17DBVR	Qual Device: TL431CDBVR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0
FLAM	Flammability (IEC 695-2-2)		3/15/0	-
FLAM	Flammability (UL 94V-0)		3/15/0	-
FLAM	Flammability (UL-1694)		3/15/0	-
TC	Temperature Cycle -65/150C	500 Cycles	3/231/0	3/231/0
TS	Thermal Shock -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Strength	Wires	3/234/0	3/234/0

- 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

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

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