PCN	Number:	20200929	003.1B				PCN	I Da	ate:	Dec. 21, 2020
Title:	:	Add Cu as	Alternativ	ve Wire	e Base Met	al for Sel	ecte	d D	evice	e(s)
-	osed 1 st Ship	Dec 31, 2	020			timated		npl		Date provided at
Date					Av	ailabilit	y:			sample request
	ge Type:								Mafa	n Dunnan Cita
	Assembly Site			_	sign ta Sheet		+	Wafer Bump Site Wafer Bump Material		
	Assembly Proce Assembly Mater			= 1	rt number	chango	+			r Bump Process
	Mechanical Spe			_	st Site	change				r Fab Site
Packing/Shipping/Labeling				_	st Process		ΗH			r Fab Materials
	r deking, empph	ig/ Labelling			5011000055		ΤH			r Fab Process
				PCN	Details	;				
Desc	ription of Cha	nge:								
LMV3 Revis notific expect Mar 2 applie Texas an ad	Description of Change: Revision B is being re-issued to correct the expected first shipment date for rev A & to add LMV324IDRG4 device which was not included on the original PCN notification. Revision A is to announce the addition of new devices that were not included on the original PCN notification. These new devices are under Group 2 device in the Product affected section below. The expected first shipment date for these new devices will be 90 days from this notice (Feb 14, 2021) Mar 21, 2021) for these newly added devices only. The proposed 1 st ship date of Dec 31, 2020 still applies for the original set of devices. Texas Instruments is pleased to announce the qualification of new assembly material set to add Cu as an additional bond wire option for devices listed in "Product affected" section below. Devices will remain in current assembly facility and piece part changes as follows: Material Current Proposed Wire type Au Cu									
	on for Change			Pr						
Contin 1) To elo 2) Ma	on for Change nuity of supply. align with wor ectrical properti aximize flexibili	: ld technolog es ty within ou	Au gy trends ur Assemb	and us	Cu e wiring w		nced	me	echan	ical and
Contii 1) To ela 2) Ma 3) Cu	on for Change nuity of supply. align with wor ectrical properti aximize flexibilit u is easier to ob	ld technolog es ty within ou tain and sto	Au gy trends ur Assemb ock	and us ly/Test	Cu e wiring w	n sites.				
Contii 1) To ela 2) Ma 3) Cu	on for Change nuity of supply. align with wor ectrical properti aximize flexibility is easier to ob cipated impact	ld technolog es ty within ou tain and sto	Au gy trends ur Assemb ock	and us ly/Test	Cu e wiring w	n sites.				
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LM22676TJ-5.0/NOPB		LM22677TJE-ADJ/J7002402	LM22679TJE-5.0/NOPB	
LM22676TJ-ADJ/J700245	2	LM22677TJE-ADJ/NOPB	LM22679TJE-ADJ/NOPB	
LM22676TJ-ADJ/NOPB		LM22678TJ-5.0/NOPB	LV13603ATJ-ADJ/NOPB	
LM22676TJE-5.0/NOPB		LM22678TJ-ADJ/J7002567	LV13603ATJ-H/NOPB	
LM22676TJE-ADJ/J7002453		LM22678TJ-ADJ/NOPB	LV13603BTJ-ADJ/NOPB	
LM22676TJE-ADJ/NOPB		LM22678TJE-5.0/NOPB	LV13603BTJ-H/NOPB	
LM22677TJ-5.0/NOPB		LM22678TJE-ADJ/J7002566	LV13603CTJ-ADJ/NOPB	
LM22677TJ-ADJ/J700240	1	LM22678TJE-ADJ/NOPB	LV13603CTJ-H/NOPB	
LM22677TJ-ADJ/NOPB		LM22679TJ-5.0/NOPB	LV13605TJ-ADJ/NOPB	
LM22677TJE-5.0/NOPB		LM22679TJ-ADJ/NOPB	LV13605TJ-H/NOPB	
2				
PS549D22RVFT	LM9	8714CCMT/NOPB	LM98722CCMT/NOPB	
PS549D23RVFR			LM98722CCMTX/NOPB	
M3152MHE-3.3/NOPB		·	LM98725CCMT/NOPB	
M3152MHX-3.3/NOPB		·	LM98725CCMTX/NOPB	
M3153MH-3.3/NOPB	TPS549D23RVFT		LMH6673MAX/NOPB	
M3153MHE-3.3/NOPB	LMV	324IDR	LMH681MAX/NOPB	
M3153MHX-3.3/NOPB	LMV358IDR		LMK00725PW	
M5045SQ/NOPB	OPA2836IDR		LMK00725PWR	
M5045SQX/NOPB	LM25101AMR/NOPB		LMK00804BPW	
M5050MK-1/NOPB	LM2	5101AMRX/NOPB	LMK00804BPWR	
M5050MK-2/NOPB	LM2	742MTC/NOPB	LMK00804PW	
M5050MKX-1/NOPB	LM2	748MTC/NOPB	LMK00804PWR	
M5050MKX-2/NOPB	LM3	150MH/J7002526	LMV321M7X-S	
M5050PMK-2/NOPB	LM3	150MH/NOPB	SN1304024D	
M5051MA/NOPB	LM3	150MHE/J7002596	SN1304024DR	
M5051MAE/NOPB	LM3	150MHE/NOPB	TPS92314AD/NOPB	
M5051MAX/NOPB	LM3	150MHX/J7002527	TPS92314ADR/NOPB	
M5100AMR/NOPB	LM3	150MHX/NOPB	TPS92314D/NOPB	
M5101AMR/NOPB	LM3	151MH-3.3/NOPB	TPS92314DR/NOPB	
M5101AMRX/NOPB	LM3	151MHE-3.3/NOPB	TPS92660PWP/NOPB	
M98714BCMT/NOPB	LM3	151MHX-3.3/NOPB	TPS92660PWPR/NOPB	
M98714BCMTX/NOPB	LM3	152MH-3.3/NOPB	LMV324IDRG4	
	LM22676TJ-ADJ/J700245 LM22676TJ-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22677TJ-S.0/NOPB LM22677TJ-ADJ/J700240 LM22677TJ-ADJ/NOPB LM22677TJ-ADJ/NOPB LM22677TJ-ADJ/NOPB LM22677TJE-5.0/NOPB 2 PS549D22RVFT PS549D23RVFR M3152MHE-3.3/NOPB M3152MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3045SQX/NOPB M5045SQX/NOPB M5050MK-1/NOPB M5050MK-2/NOPB M5050MKX-2/NOPB M5050MKX-2/NOPB M5050MKX-2/NOPB M5051MA/NOPB M5051MA/NOPB M5051MAX/NOPB M5010AMR/NOPB M5101AMR/NOPB M5101AMR/NOPB M5101AMR/NOPB	LM22676TJ-ADJ/J7002452 LM22676TJ-ADJ/NOPB LM22676TJE-S.0/NOPB LM22676TJE-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22677TJ-S.0/NOPB LM22677TJ-ADJ/NOPB M3152MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M3153MHE-3.3/NOPB M5045SQ/NOPB M5050MK-1/NOPB LM2 M5050MKX-1/NOPB LM2 M5051MAK/NOPB LM3 M50051MAK/N	LM22676TJ-ADJ/J7002452 LM22677TJE-ADJ/NOPB LM22676TJ-ADJ/NOPB LM22678TJ-5.0/NOPB LM22676TJE-5.0/NOPB LM22678TJ-ADJ/NOPB LM22676TJE-ADJ/J7002453 LM22678TJ-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22678TJ-ADJ/NOPB LM22676TJE-ADJ/NOPB LM22678TJE-ADJ/NOPB LM2267TJ-S.0/NOPB LM22678TJE-ADJ/NOPB LM2267TJ-ADJ/NOPB LM22678TJE-ADJ/NOPB LM2267TJ-ADJ/NOPB LM22678TJE-ADJ/NOPB LM2267TJ-ADJ/NOPB LM22679TJ-S.0/NOPB LM2267TJ-ADJ/NOPB LM22679TJ-S.0/NOPB LM2267TJ-ADJ/NOPB LM22679TJ-S.0/NOPB LM2267TJ-S.0/NOPB LM22679TJ-ADJ/NOPB LM2267TTJ-S.0/NOPB LM22679TJ-ADJ/NOPB LM2267TTJ-S.0/NOPB LM22679TJ-ADJ/NOPB LM2267TTJ-S.0/NOPB LM22679TJ-ADJ/NOPB M2267TTJ-S.0/NOPB LM22679TJ-S.0/NOPB M3152MHZ-3.3/NOPB LM98714CCMTX/NOPB M3153MHX-3.3/NOPB LM98714CCMTX/S7003074 M3153MHX-3.3/NOPB LMV324IDR M3153MHX-3.3/NOPB LMV324IDR M3153MHX-3.3/NOPB LM25101AMR/NOPB M5050MK-1/NOPB	

Group 1 Qualification Report

Approved on 18-Sep-2020

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: <u>LM22670TJ5M64Y</u>	QBS Package Reference: <u>TPS92613QNDRRQ1</u>
AC	Autoclave 121C	96 hours	3/231/0	-
HAST	Biased HAST, 130C/85%RH	96	QBS	3/231/0
HTSL	High Temp Storage Bake 150C	1000hrs	QBS	1/45/0
TC	Temperature Cycle, -65/150C	500 cycles	3/231/0	-

- QBS: Qual By Similarity

- Qual Device LM22670TJ5M64Y is qualified at LEVEL1-260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle 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

Qualification Data

Approved on 10/15/2020

		Data	Displayed as: r	Number of lots /	5 / Total sample size / Total failed			
Туре	Test Name / Condition	Duration	Qual Device: <u>TPS543B20RVF</u>	Qual Device: <u>TPS543C20RVF</u>	Qual Device: <u>TPS546C20RVF</u>	Qual Device: <u>TPS548D22RVF</u>	QBS Package Reference: <u>CSD95372AQ5M</u>	QBS Package Reference: <u>TPS544C24RVFR</u>
ED	Electrical Characterization	-	Pass	Pass	Pass	Pass	-	-
HAST	Biased HAST, 110C/85%RH	264 Hours	-	-	3/231/0	-	-	-
HAST	Biased HAST, 110C/85%RH	528 Hours	-	-	3/231/0	-	-	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	3/231/0	-	-	-
тс	Temperature Cycle, -55/125C	700 Cycles	3/231/0	-	3/231/0	1/77/0	-	2/169/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	3/231/0	-	3/231/0	1/77/0	-	-
YLD	FTY and Bin Summary	-	Pass	Pass	Pass	Pass	-	-

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

- QBS: Qual By Similarity

- Qual Devices TPS543C20RVF, TPS546C20RVF, TPS548D22RVF, and TPS543B20RVF are qualified at LEVEL2-260C

- Devices TPS543C20RVF, TPS546C20RVF, TPS548D22RVF, and TPS543B20RVF contain multiple dies.

- 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

Qualification Data

Approved on 08/30/2013

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: <u>ADS1131IDR</u>	Qual Device: <u>RC4558DR</u>	Qual Device: <u>SN65MLVD207DR</u>	Qual Device: <u>SN74AHC138DR</u>	Qual Device: <u>UCC28061DR</u>			
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0			
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0	3/231/0	3/231/0	3/231/0			
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass	Pass			
тс	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0	3/231/0	3/227/0			

- QBS: Qual By Similarity

- Qual Device ADS1131IDR is qualified at LEVEL2-260C

- Qual Device RC4558DR, SN65MLVD207DR, SN74AHC138DR, UCC28061DR are qualified at LEVEL1-260C

- 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

Qualification Data

Approved on 10/17/2011

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

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Туре	Test Name / Condition	Duration	Qual Device: <u>CD4053BM96</u>	Qual Device: <u>LM358DR</u>	Qual Device: <u>TL494IDR</u>	Qual Device: <u>ULN2003ADR</u>		
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	3/231/0	3/231/0		
ED	Electrical Characterization, side by side	Per Datasheet Parameters	Pass	Pass	Pass	Pass		
FLAM	Flammability (IEC 695-2-2)		-	-	3/15/0	-		
FLAM	Flammability (UL 94V-0)		-	-	3/15/0	-		
FLAM	Flammability (UL-1694)		-	-	3/15/0	-		
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	1/77/0	3/229/0	1/77/0		
HTOL	Life Test, 150C	300 Hours	1/77/0	1/77/0	3/231/0	1/77/0		
HTSL	High Temp Storage Bake 170C	600 Hours	1/77/0	1/77/0	3/231/0	3/231/0		
LI	Lead Pull	Leads	1/22/0	1/22/0	3/66/0	3/66/0		
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass		
MSL	Moisture Sensitivity, JEDEC	Level 1-260C	-	3/36/0	3/36/0	3/36/0		
тс	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0		

Туре	Test Name / Condition	Duration	Qual Device: <u>CD4053BM96</u>	Qual Device: <u>LM358DR</u>	Qual Device: <u>TL494IDR</u>	Qual Device: <u>ULN2003ADR</u>
TS	Thermal Shock -65/150C	500 Cycles	1/77/0	3/231/0	3/231/0	3/231/0
VM	Visual / Mechanical	(per mfg. Site specification)	Pass	Pass	Pass	Pass
WBP	Bond Strength	Wires	1/76/0	1/76/0	3/228/0	1/76/0
XRAY	X-ray	(top side only)	1/5/0	1/5/0	3/15/0	3/15/0

- QBS: Qual By Similarity

- Qual Device CD4053BM96, LM358DR, TL494IDR, ULN2003ADR are qualified at LEVEL1-260C

- 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

Qualification Data

Approved on 11-Nov-2013

Qualification Results

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

Data Displayed us. Namber of 1013 / Total sample size / Total failed										
Туре	Test Name / Condition	Duration	Qual Device: DS90CP22MXA1CL	Qual Device: LMV324MX	Qual Device: LP2995MXNOPB	Qual Device: LMC6482AIM/NOPB				
PC	PreCon Level 1	Level 1-260C	3/462/0	-	3/462/0	3/693/0				
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	-	3/231/0				
AC	Autoclave 121C	96HRS	3/231/0	-	3/231/0	3/231/0				
тс	Temperature Cycle, -65/150C	TMCL500X	3/231/0	-	3/231/0	3/231/0				
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	-	-	1/77/0				
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	-	Pass	Pass	Pass				
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	-	3/15/0	3/15/0				
YLD	FTY and Bin Summary	Compare against baseline	-	Pass	Pass	Pass				

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

- 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/

Qualification Data Approved on 23-Sep-2014

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

	Data Displayed as: Number of lots / rotal sample size / rotal failed							
Typ e	Test Name / Condition	Duratio n	Qual Device: DP83848T SQ	Qual Device: DS91M040TSQ AW	Qual Device: DS100DX410E L16	Qual Device: DS80PCI402A 2TT	Qual Device: LMH0366SQEN OPB	Qual Device: LMH0394SQ/N OPB
PC	PreCon Level 1	Level 1- 260C					3/720/0	
PC	PreCon Level 2	Level 2- 260C	3/1079/0		-	3/720/0	-	-
PC	PreCon Level 3	Level 3- 260C	-	1/255/0	3/720/0	-	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	-	-	-	3/231/0
AC	Autoclave 121C	96HRS	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
UHAS T	Unbiased HAST 130C/85%RH	unHAST- 96 HRS/-	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
тс	Temperature Cycle, - 65/150C	TMCL500 X	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-
HTSL	High Temp Storage Bake 170C	420 hrs. @170C	3/231/0	-	-	3/231/0	-	-
ED	Side By Side Electrical Characterizati on.	Per Datasheet Parameter s	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	-
MQ	Manufacturab ility (Assembly)	(per mfg. Site specificati on)	Pass	Pass	Pass	Pass	Pass	Pass
MSL	Thermal Path Integrity	Level 2- 260C	3/30/0	1/22/0	3/66/0	3/66/0	3/66/0	-
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustnes s, Check for stich bond and bond pad integrity	3/3/0	-	3/15/0	3/15/0	3/15/0	1/5/0 Post 96 hours HAST
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	Pass	Pass	Pass	Pass

- QBS: Qual By Similarity

- Qual Device DS100DX410EL16 is qualified at LEVEL3-260C

- Qual Device DS80PCI402A2TT is qualified at LEVEL2-260C

- Qual Device LMH0366SQENOPB is qualified at LEVEL1-260C

- Qual Device LMH0394SQ/NOPB is qualified at -

- Qual Device LMH0394SQ/NOPB REV A is qualified at LEVEL3-260C

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

- 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

Qualification Data

Approved on 17-Sept-2015

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: LMV7275MG/NOPB	Supporting QBS: LM4041AIM3-1.2 (TL)	Supporting QBS: LM4041AIM3-1.2 (TL)
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	3/231/0
AC	Autoclave 121C	96 Hours	-	3/231/0	-
тс	Temperature Cycle, - 65/150C	500 Cycles	1/77/0	-	-
тс	Temperature Cycle, - 65/150C	1000 Cycles	-	3/231/0	-
HTSL	High Temp Storage Bake 150C	500 Hours	1/77/0	2/154/0	1/77/0
HTSL	High Temp Storage Bake 150C	1000 Hours	1/77/0	2/154/0	1/79/0
MQ	Manufacturability (Assembly)		1/pass	1/pass	1/pass

- QBS: Qual By Similarity

- Qual Device LMV7275MG/NOPB is qualified at LEVEL1-260C

- 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

Qualification Data

Approved on 10-Nov-2012

Qualification Results

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

Data Displayed ds. Namber of 1003 / Total Sample Size / Total failed								
Туре	Test Name / Condition	Duration	Qual Device: LM4041AIM3-1.2	Qual Device: LP3985IM5X-5.0	Qual Device: LMC7101AIM5NOPB	Qual Device: LM431CCM3NOPB		
PC	PreCon Level 1	Level 1- 260C	3/693/0	3/462/0	3/693/0	3/462/0		
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	3/231/0	-	3/231/0	-		
AC	Autoclave 121C	96HRS	3/231/0	3/231/0	3/231/0	3/231/0		
тс	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0		
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	1/77/0	-	1/77/0	1/77/0		
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass		
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	3/15/0	3/15/0		
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	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

Qualification Data

Approved on 26-Aug-2012

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: LMV852MMX	Qual Device: LMC6482IMM	Qual Device: LM93CIMT	Qual Device: LM5642MHX			
PC	PreCon Level 1	Level 1- 260C	3/462/0	3/462/0	-	3/231/0			
PC	PreCon Level 2	Level 2- 260C	-	-	3/693/0	-			
HAST	Biased HAST, 130C/85%RH	96/hrs. @130C	-	-	3/231/0	-			
AC	Autoclave 121C	96HRS	3/231/0	3/231/0	3/231/0	-			
тс	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0			

HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	-	1/77/0	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	-	-
DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	-	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	-	-

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

- 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

Qualification Data

Approved on 15-Oct-2012

Qualification Results

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

Туре	Test Name / Condition	Duration	Qual Device: LMH0346MH	Qual Device: LM5037MT	Qual Device: LM3657MH/NOPB	Qual Device: SCANSTA111MTX
PC	PreCon Level 1	Level 1- 260C	-	3/693/0	3/462/0	-
PC	PreCon Level 2	Level 2- 260C	-	-	-	3/462/0
PC	PreCon Level 3	Level 3- 260C	3/231/0	-	-	-
тнвт	THBT 85C, 85%RH	1000/hrs. @85C	-	3/231/0	-	-
AC	Autoclave 121C	96HRS	-	3/231/0	3/231/0	3/231/0
тс	Temperature Cycle, -65/150C	TMCL500X	3/231/0	3/231/0	3/231/0	3/231/0
HTSL	High Temp Storage Bake 150C	1000 hrs. @150C	-	1/77/0	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass	Pass	Pass	Pass

DPA	Destructive Physical Analysis Post 500 Temp Cycle	x-section and de process to examine assembly robustness, Check for stich bond and bond pad integrity	3/15/0	3/15/0	3/15/0	3/15/0
YLD	FTY and Bin Summary	Compare against baseline	Pass	Pass	Pass	Pass

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

- 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/

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