

PCN Number:	20160720001		PCN Date:	07/22/2016												
Title:	Qualify ASESH as an additional Assembly & Test site for select devices															
Customer Contact:	PCN Manager	Dept:	Quality Services													
Proposed 1st Ship Date:	10/22/2016	Estimated Sample Availability:	Provided upon Request													
Change Type:																
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials											
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification											
<input checked="" type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process											
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process											
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process											
		<input type="checkbox"/>	Part number change													
PCN Details																
Description of Change:																
Texas Instruments is pleased to announce the qualification of ASESH as an additional Assembly & Test site for the list of devices shown below. Material differences between sites as follows.																
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly City</th> </tr> </thead> <tbody> <tr> <td>TI Malaysia</td> <td>MLA</td> <td>MY</td> <td>Kuala Lumpur</td> </tr> <tr> <td>ASESH</td> <td>ASH</td> <td>CN</td> <td>Shanghai</td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City	TI Malaysia	MLA	MY	Kuala Lumpur	ASESH	ASH	CN	Shanghai
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly City													
TI Malaysia	MLA	MY	Kuala Lumpur													
ASESH	ASH	CN	Shanghai													
Material Differences:																
	TI Malaysia	ASESH														
Mount Compound	4042500	EY1000063														
Mold compound	4206193	EN2000507														
Lead finish	NiPdAu	Matte Sn														
<p>Upon expiration of this PCN, TI will combine lead free solutions in a single standard part number, for example; MAX3221CPWR – can ship with both Matte Sn and NiPdAu. When available customers may specify NiPdAu finish by ordering the part with the G4 suffix, e.g. MAX3221CPWRG4.”</p> <p>Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.</p>																
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 website .													

Changes to product identification resulting from this PCN:

Assembly Site		
TI Malaysia	Assembly Site Origin (22L)	ASO: MLA
ASESH	Assembly Site Origin (22L)	ASO: ASH

Sample product shipping label (not actual product label)

Topside Device marking:

Assembly site code for MLA= K

Assembly site code for ASH = A

Product Affected

MAX3221CPW	MAX3221ECPWG4	MAX3221IPW	TRS3221ECPWR-LI
MAX3221CPWE4	MAX3221ECPWR	MAX3221IPWG4	TRS3221EIPW
MAX3221CPWG4	MAX3221EIPW	MAX3221IPWR	TRS3221EIPWR
MAX3221CPWR	MAX3221EIPWE4	MAX3221IPWRG4	TRS3221EIPWRG4
MAX3221CPWRE4	MAX3221EIPWG4	TRS3221CPWR	TRS3221IPW
MAX3221CPWRG4	MAX3221EIPWR	TRS3221CPWRG4	TRS3221IPWR
MAX3221ECPW	MAX3221EIPWRE4	TRS3221ECPW	
MAX3221ECPWE4	MAX3221EIPWRG4	TRS3221ECPWR	

Qualification Report

Multisource MAX3221ECPWR and MAX3221CPWR to ASESH

Approve Date 01-Jul-2016

Product Attributes

Attributes	Qual Device: MAX3221CPWR	Qual Device: MAX3221ECPWR	QBS Product Reference: TRS3243CDB	QBS Process Reference: MAX232ECDW	QBS Process Reference: MAX3237EDW
Assembly Site	ASESH	ASESH	MLA	MLA	MLA
Package Family	TSSOP	TSSOP	SSOP	SOIC	SOIC
Flammability Rating	UL 94 V0	UL 94 V0	UL 94 V0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DFAB	DFAB	DFAB	DFAB	DFAB
Wafer Process	LBC3S	LBC3S	LBC3S	LBC3S	LBC3S

Attributes	QBS Process Reference:	QBS Package Reference:	QBS Package Reference:	QBS Package Reference:
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	SN75C3238EDW	SN74LV14APWR	SN74LVC14APWR	ULN2003APW
Assembly Site	TAI	ASESH	ASE-SH	ASESH
Package Family	SOIC	TSSOP	TSSOP	TSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	DFAB	SFAB	FFAB	SFAB
Wafer Process	LBC3S	EPIC1-S	P9750	JI

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260CG: MAX3221CPWR, MAX3221ECPWR
- Device MAX3221ECPWR contains multiple dies.

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: MAX3221CPWR	Qual Device: MAX3221ECPWR	QBS Product Reference: TRS3243CDB	QBS Process Reference: MAX232ECD W
AC	Autoclave 121C	96 Hours	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-
ESD	ESD - IEC Air Gap	15000 V	-	-	-	1/3/0
HBM	ESD - HBM	4000 V	1/3/0	1/3/0	-	-
HBM	ESD - HBM -HIGH	15000 V	-	-	1/3/0	1/3/0
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	-	1/3/0
HTOL	Life Test, 150C	300 Hours	-	-	1/77/0	-
HTSL	High Temp. Storage Bake, 150C	1000 Hours	-	-	-	-
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	1/6/0	3/9/0
TC	Temperature Cycle, -65C/150C	500 Cycles	-	-	-	-
THB	Biased Temperature and Humidity, 85C/85%RH	1000 Hours	-	-	-	-
UHA	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-
WBP	Bond Strength	Wires	-	-	-	-

Type	Test Name / Condition	Duration	QBS Process Reference: MAX3237E DW	QBS Process Reference: SN75C3238 EDW	QBS Package Reference: SN74LV14 APWR	QBS Package Reference: SN74LVC14A PWR	QBS Package Reference: ULN2003AP W
AC	Autoclave 121C	96 Hours	1/77/0	1/77/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	1/77/0	1/77/0	1/77/0
ESD	ESD - IEC Air Gap	15000 V	-	-	-	-	-
HBM	ESD - HBM	4000 V	-	-	-	-	-

HBM	ESD - HBM -HIGH	15000 V	-	-	-	-	-
CDM	ESD - CDM	1500 V	-	-	-	-	-
HTOL	Life Test, 150C	300 Hours	1/40/0	1/40/0	1/77/0	1/77/0	1/77/0
HTSL	High Temp. Storage Bake, 150C	1000 Hours	1/77/0	1/77/0	1/77/0	1/77/0	1/77/0
LU	Latch-up	(per JESD78)	-	-	-	-	-
TC	Temperature Cycle, -65C/150C	500 Cycles	1/77/0	1/77/0	1/77/0	1/77/0	1/77/0
THB	Biased Temperature and Humidity, 85C/85%RH	1000 Hours	1/26/0	1/26/0	-	-	-
UHASt	Unbiased HAST 130C/85%RH	96 Hours	-	-	1/77/0	1/77/0	1/77/0
WBP	Bond Strength	Wires	-	-	1/76/0	1/76/0	1/76/0

- 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.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com