

<b>PCN Number:</b>	20150901006		<b>PCN Date:</b>	9/02/2015	
<b>Title:</b>	Qualification of Additional Assembly and Test Sites for Selected Devices plus BOM Changes				
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services		
<b>Proposed 1<sup>st</sup> Ship Date:</b>	12/02/2015	<b>Estimated Sample Availability:</b>	Provided upon Request		
<b>Change Type:</b>					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Assembly Process	<input checked="" 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 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		
<b>PCN Details</b>					
<b>Description of Change:</b>					
Texas Instruments is pleased to announce the qualification of TI Clark and ASEN as alternate Assembly and Test sites for the devices listed below plus selected BOM changes.					
<b>Group 1 Devices (Die #1):</b> TI Clark as additional Assy/Test site plus Cu Bond wire & New Mount Compound					
			<b>UTAC</b>	<b>TI Clark</b>	
<b>Bond Wire Composition</b>			Au	<b>Cu</b>	
<b>Bond Wire Diameter</b>			1.0 mils	<b>0.8 mils</b>	
<b>Group 1 Devices (Die #2):</b>					
			<b>UTAC</b>	<b>TI Clark</b>	
<b>Mount Compound</b>			SID#PZ0035	<b>4207768</b>	
<b>Group 2 Devices:</b> ASEN as additional Assy/Test site plus new mount compound					
			<b>JCET</b>	<b>ASEN</b>	
<b>Mount Compound</b>			SID#120402007300	<b>SID#1400329111</b>	
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.					
<b>Reason for Change:</b>					
Continuity of Supply					
<b>Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):</b>					
None					
<b>Anticipated impact on Material Declaration</b>					
<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 <a href="#">TI ECO website</a> .		

**Changes to product identification resulting from this PCN:**

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (21L)	Assembly City
UTAC	NSE	THA	Bangkok
JCET	JCE	CHN	Jiangyin
<b>TI Clark</b>	<b>QAB</b>	<b>PHL</b>	<b>Angeles City, Pampanga</b>
<b>ASEN</b>	<b>ASN</b>	<b>CHN</b>	<b>Suzhou</b>

Sample product shipping label (not actual product label)

**Topside Device marking:**

Assembly site code for NSE= J

Assembly site code for JCE= F

**Assembly site code for QAB = I**

**Assembly site code for ASN = J**

**Product Affected**

**Group 1 Devices:**

TPS22959DNYR	TPS22961DNYR	TPS22962DNYR	TPS22969DNYR
TPS22959DNYT	TPS22961DNYT	TPS22962DNYT	TPS22969DNYT

**Group 2 Devices:**

TPD6E05U06RVZR

## Group 1 Qualification Data:



TI Information  
Selective Disclosure

### Qualification Report

TPS22959DNY Clark qual with NextFet (Catalog/Mass Market), all Cu bond wire.

Approve Date 26-Aug-2015

#### Product Attributes

Attributes	Qual Device: TPS22959DNYR	Qual Device: TPS22969DNYR	QBS Package Reference: TPS22961DNYR
Assembly Site	CLARK-AT	CLARK AT	CLARK AT
Package Family	VSON	VSON	VSON
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	CFAB, MIHO8	CFAB, MIHO8	CFAB, MIHO8
Wafer Process	LBC7, NU35LN	LBC7, NU35LN	LBC7, NU35LN

- QBS: Qual by Similarity

- Qual Devices qualified at LEVEL2-260C: TPS22959DNYR

- Device TPS22959DNYR contains multiple dies.

#### Qualification Results

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



Type	Test Name / Condition	Duration	Qual Device: TPS22959DNYR	QBS Product Reference: TPS22969DNYR	QBS Package Reference: TPS22961DNYR
AC	Autoclave 121C	96 Hours	-	-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-
HAST	Biased HAST, 110C/85%RH	294 Hours	-	-	3/231/0
HBM	ESD - HBM	4000 V	-	-	-
CDM	ESD - CDM	1500 V	-	-	-
HTOL	Life Test, 155C	240 Hours	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	-	3/231/0
LU	Latch-up	(per JESD78)	-	-	-
PD	Physical Dimensions	--	-	-	3/15/0
SD	Surface Mount Solderability	Pb Free	-	-	3/66/0
TC	Temperature Cycle -65C/150C	1000 Cycles	-	-	3/231/0
WBP	Bond Pull	Wires	-	1/76/0	3/228/0

- 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

## Group 2 Qualification Data:



TI Information  
Selective Disclosure

### Qualification Report

**New Package: ASEN RVZ Package Qual using TPD6E05U06RVZR  
(Mount compound SID#1400329111) screen print, conductive)**

Approve Date 21-Aug-2015

Product Attributes	QBS Package Reference: TPD4E05U06DQAR
Assembly Site	ASE
Package Family	WSON
Flammability Rating	UL 94 V-0
Wafer Fab Supplier	CFAB
Wafer Process	VDIODE

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL1-260C: TPD4E05U06DQAR

### Qualification Results

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



Type	Test Name / Condition	Duration	QBS Package Reference: TPD4E05U06DQAR
ED	Electrical Characterization	Per Datasheet Parameters	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	3/231/0
HBM	ESD - HBM	4000 V	-
CDM	ESD - CDM	1500 V	-
HTOL	Life Test, 150C	300 Hours	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0
PD	Physical Dimensions	--	3/15/0
SD	Solderability	8 Hours Steam Age	-
SD	Surface Mount Solderability	Pb Free	3/66/0
TC	Temperature Cycle -65/150C	500 Cycles	3/231/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/231/0
WBP	Bond Pull	Wires	-
WBP	Bond Strength	Wires	3/228/0

- 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

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	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
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Asia Pacific	<a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>
Japan	<a href="mailto:PCNJapanContact@list.ti.com">PCNJapanContact@list.ti.com</a>