



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20161010001**  
**Qualification of ASEN as Additional Assembly and Test Site**  
**for Select USON Package Devices**  
**Change Notification / Sample Request**

**Date:** October 12, 2016  
**To:** PREMIER FARNELL PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The proposed first ship date is indicated on page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager ([PCN\\_ww\\_admin\\_team@list.ti.com](mailto:PCN_ww_admin_team@list.ti.com)).

Sincerely,

PCN Team  
SC Business Services

**20161010001**  
**Attachment: 1**

**Products Affected:**

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
TPD4S012DRYR	null
TPD2E001DRYR	null

Technical details of this Product Change follow on the next page(s).

<b>PCN Number:</b>	20161010001	<b>PCN Date:</b>	Oct 12, 2016																
<b>Title:</b>	Qualification of ASEN as Additional Assembly and Test Site for Select USON Package Devices																		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services																
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Jan 12, 2017	<b>Estimated Sample Availability:</b>	Date Provided at Sample request																
<b>Change Type:</b>																			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design																
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet																
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change																
<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																
<b>PCN Details</b>																			
<b>Description of Change:</b>																			
Texas Instruments Incorporated is announcing the qualification of ASEN as Additional Assembly and Test Site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.																			
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin</th> <th>Assembly Country Code</th> <th>Assembly Site City</th> </tr> </thead> <tbody> <tr> <td>Carsem</td> <td>CRS</td> <td>MY</td> <td>Jelapang</td> </tr> <tr> <td>UTAC Thailand</td> <td>NSE</td> <td>TH</td> <td>Bangkok</td> </tr> <tr> <td><b>ASEN</b></td> <td><b>ASN</b></td> <td><b>CN</b></td> <td><b>Suzhou</b></td> </tr> </tbody> </table>				Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	Carsem	CRS	MY	Jelapang	UTAC Thailand	NSE	TH	Bangkok	<b>ASEN</b>	<b>ASN</b>	<b>CN</b>	<b>Suzhou</b>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City																
Carsem	CRS	MY	Jelapang																
UTAC Thailand	NSE	TH	Bangkok																
<b>ASEN</b>	<b>ASN</b>	<b>CN</b>	<b>Suzhou</b>																
<b>Material Differences:</b>																			
<b>Group 1 Device:</b>																			
	<b>NSE</b>	<b>ASEN</b>																	
Mount Compound	PZ0039	1400238112																	
Mold compound	CZ0140	1801512111																	
<b>Group 2 Device:</b>																			
	<b>Carsem</b>	<b>ASEN</b>																	
Wire type	1.3mil Au	1.0mil Cu																	
Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.																			
<b>Reason for Change:</b>																			
Continuity of supply. 1) To align with world technology trends and use wiring with enhanced mechanical and electrical properties 2) Maximize flexibility within our Assembly/Test production sites. 3) Cu is easier to obtain and stock																			
<b>Anticipated impact on Form, Fit, 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 at the site link below <a href="http://www.ti.com/quality/docs/materialcontentsearch.tsp">http://www.ti.com/quality/docs/materialcontentsearch.tsp</a>																

## Changes to product identification resulting from this PCN:

Assembly Site		
Carsem	Assembly Site Origin (22L)	ASO: CRS
UTAC Thailand	Assembly Site Origin (22L)	ASO: NSE
<b>ASEN</b>	Assembly Site Origin (22L)	ASO: <b>ASN</b>

Sample product shipping label (not actual product label)

 <p>MADE IN: Malaysia 2DC: 2d:</p> <table border="1"> <tr> <td>MSL '2 /260C/1 YEAR</td> <td>SEAL DT</td> </tr> <tr> <td>MSL 1 /235C/UNLIM</td> <td>03/29/04</td> </tr> </table> <p>OPT: ITEM: 39 <b>LBL: 5A (L)TO:1750</b></p>	MSL '2 /260C/1 YEAR	SEAL DT	MSL 1 /235C/UNLIM	03/29/04			<p>(1P) <b>SN74LS07NSR</b>          (Q) <b>2000</b> (D) <b>0336</b>          (31T) LOT: 3959047MLA          (4W) TKY (1T) 7523483SI2          (P)          (2P) REV: (V) 0033317          (20L) <del>CSO: SHE</del> (21L) CCO:USA          (22L) <b>ASO: MLA</b> (23L) ACO: MYS</p>
MSL '2 /260C/1 YEAR	SEAL DT						
MSL 1 /235C/UNLIM	03/29/04						

### Group 1 Product Affected:

TPD2E001DRYR	TPD4S012DRYR
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### Group 2 Product Affected:

DRV10863DSNR

## Group 1: Qualification Report

Qualifying TPD4S012DRYR and TPD2E001DRYR at ASEN  
Approve Date 14-Sep-2016

### Product Attributes

Attributes	Qual Device: TPD2E001DRYR	Qual Device: TPD4S012DRYR	QBS Package Reference: SN74AVC4T245RSVR
Assembly Site	ASEN	ASEN	ASEN
Package Family	SON	SON	-
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	FFAB	FFAB	FFAB
Wafer Process	A3C10TPI	A3C10TPI	ASLC10

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL1-260C: TPD2E001DRYR, TPD4S012DRYR

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPD2E001DRYR	Qual Device: TPD4S012DRYR	QBS Package Reference: SN74AVC4T245RSVR
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	Pass
FLAM	Flammability (IEC 695-2-2)	--	3/15/0	-	3/15/0
FLAM	Flammability (UL 94V-0)	--	3/15/0	-	3/15/0
FLAM	Flammability (UL-1694)	--	3/15/0	-	3/15/0
HAST	Biased HAST, 130C/85%RH	96 Hours	1/77/0	-	3/231/0

HTOL	Life Test, 150C	300 Hours	1/77/0	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	3/231/0	3/231/0
PD	Physical Dimensions	--	3/15/0	-	3/15/0
SD	Solderability	Pb-Free	3/66/0	-	3/66/0
SD	Solderability	Pb	3/66/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	3/228/0	-
WBP	Bond Strength	Wires	-	-	3/228/0
WBS	Ball Bond Shear	Wires	3/228/0	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 Report

### Qualify Second Source Assembly Site for DRV10863DSNR - ASEN

Approve Date 05-Oct-2016

### Product Attributes

Attributes	Qual Device: DRV10863DSNR	QBS Product Reference: DRV10863BA	QBS Product Reference: DRV10863BB	QBS Process Reference: TPS62110RSA	QBS Package Reference: SN74HC595BRWN	QBS Package Reference: SN74HC595PWR.
Assembly Site	ASEN	CRS-CARSEM	CRS-CARSEM	CAR	ASEN	MLA (TIM)
Package Family	SON, 3 x 3 MM	SON	SON	QFN	X1QFN	TSSOP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	-
Wafer Fab Supplier	MIHO 8	MH8	MH8	MIHO8	FFAB	FFAB
Wafer Process	LBC7	LBC7	LBC7	LBC7	ASLC10/P9742	ASLC10/P9742

- QBS: Qual By Similarity

- Qual Device DRV10863DSNR is qualified at LEVEL2-260C

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: DRV10863DSNR	QBS Product Reference: DRV10863BA	QBS Product Reference: DRV10863BB
AC	Autoclave 121C	96 Hours	3/231/0	1/77/0	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	-	Pass
ELFR	Early Life Failure Rate, 140C	48 Hours	-	-	-
FLAM	Flammability (IEC 695-2-2)	--	1/7/0	-	-
FLAM	Flammability (UL 94V-0)	--	1/7/0	-	-
FLAM	Flammability (UL-1694)	--	1/7/0	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-

HBM	ESD - HBM	2500 V	-	1/9/0	-
CDM	ESD - CDM	1000 V	-	1/3/0	1/3/0
HTOL	Life Test, 125C	1000 Hours	-	1/77/0	-
HTOL	Life Test, 140C	480 Hours	-	-	-
HTOL	Life Test, 150C	300 Hours	-	-	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-	-
LU	Latch-up	(per JESD78)	-	2/12/0	2/12/0
PD	Physical Dimensions	--	3/15/0	-	-
SD	Surface Mount Solderability	Pb	2/48/0	-	-
SD	Surface Mount Solderability	Pb-Free	2/48/0	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	1/77/0	-
TS	Thermal Shock, -65/150C	500 Cycles	-	-	-
WBP	Bond Pull	Wires	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-

Type	Test Name / Condition	Duration	QBS Process Reference: TPS62110RSA	QBS Package Reference: SN74HC595BRWN	QBS Package Reference: SN74HC595PWR.
AC	Autoclave 121C	96 Hours	3/231/0	3/231/0	-
ED	Electrical Characterization	Per Datasheet Parameters	-	Pass	Pass
ELFR	Early Life Failure Rate, 140C	48 Hours	3/1881/0	-	-
FLAM	Flammability (IEC 695-2-2)	--	-	-	-
FLAM	Flammability (UL 94V-0)	--	-	-	-
FLAM	Flammability (UL-1694)	--	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0	-
HBM	ESD - HBM	2500 V	-	-	-
CDM	ESD - CDM	1000 V	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-
HTOL	Life Test, 140C	480 Hours	3/231/0	-	-
HTOL	Life Test, 150C	300 Hours	-	6/462/0	1/77/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	2/231/0	-
LU	Latch-up	(per JESD78)	3/15/0	-	1/6/0
PD	Physical Dimensions	--	-	3/15/0	-
SD	Surface Mount Solderability	Pb	-	3/66/0	-
SD	Surface Mount Solderability	Pb-Free	-	3/66/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	6/462/0	-
TS	Thermal Shock, -65/150C	500 Cycles	3/231/0	-	-
WBP	Bond Pull	Wires	-	3/228/0	-
WBS	Ball Bond Shear	Wires	-	3/228/0	-

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

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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.

<b>Location</b>	<b>E-Mail</b>
USA	<a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a>
Europe	<a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>
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>