



**12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

**PCN# 20161102000**  
**Qualification of HANA Thailand as Additional Assembly and Test Site**  
**for Select SSOP Package Devices**  
**Change Notification / Sample Request**

**Date:** November 28, 2016  
**To:** MOUSER 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

**20161102000**  
**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>
74AVCH2T45DCTRE4	null
74LVC1G123DCTRE4	null
74LVC1G123DCTTE4	null
74LVC1G123DCTTG4	null
74LVC1G139DCTRE4	null
LSF0102DCTR	null
SN74AUC2G00DCTR	null
SN74AUC2G00DCTRE4	null
SN74AUC2G02DCTR	null
SN74AUC2G08DCTR	null
SN74AUC2G08DCTRE4	null
SN74AUC2G126DCTR	null
SN74AUC2G240DCTR	null
SN74AUC2G241DCTR	null
SN74AUC2G32DCTR	null
SN74AUC2G66DCTR	null
SN74AUC2G79DCTR	null
SN74AUC2G86DCTR	null
SN74AUP1G99DCTR	null
SN74AVC2T45DCTR	null
SN74AVC2T45DCTRE4	null
SN74AVC2T45DCTT	null
SN74AVCH2T45DCTR	null
SN74AVCH2T45DCTT	null
SN74LVC1404DCTR	null
SN74LVC1G123DCTR	null
SN74LVC1G123DCTT	null
SN74LVC1G139DCTR	null
SN74LVC1G139DCTT	null
SN74LVC1G29DCTR	null
SN74LVC1G99DCTT	null
SN74LVC2G00DCTR	null
SN74LVC2G02DCTR	null
SN74LVC2G02DCTRE4	null
SN74LVC2G02DCTRG4	null
SN74LVC2G08DCTR	null
SN74LVC2G125DCTR	null
SN74LVC2G132DCTR	null
SN74LVC2G157DCTR	null
SN74LVC2G240DCTR	null
SN74LVC2G32DCTR	null
SN74LVC2G38DCTR	null
SN74LVC2G66DCTR	null
SN74LVC2G79DCTR	null
SN74LVC2G80DCTR	null
SN74LVC2G80DCTRG4	null
SN74LVC2G86DCTR	null
SN74LVC2T45DCTR	null
SN74LVC2T45DCTT	null
SN74LVC3G04DCTR	null
SN74LVC3G06DCTR	null
SN74LVC3G07DCTR	null
SN74LVC3G14DCTR	null
SN74LVC3G14DCTRE4	null
SN74LVC3G17DCTR	null
SN74LVC3G17DCTRG4	null
SN74LVC3G34DCTR	null
SN74LVC3G34DCTRG4	null
SN74LVC3GU04DCTR	null
SN74TVC3306DCTR	null

TCA9406DCTR  
TS5A2053DCTR  
TXS0102DCTR  
TXS0102DCTT  
TXS0102DCTTG4

null  
null  
null  
null  
null

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

<b>PCN Number:</b>	20161102000		<b>PCN Date:</b>	Nov 28, 2016												
<b>Title:</b>	Qualification of HANA Thailand as Additional Assembly and Test Site for Select SSOP 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>	Feb 28, 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"/>												
<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>												
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>												
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>												
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>												
		<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 HANA Thailand 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>Hitachi</td> <td>HTC</td> <td>JPN</td> <td>Kitatsugaru, Aomori</td> </tr> <tr> <td><a href="#">HANA Thailand</a></td> <td><a href="#">HNT</a></td> <td><a href="#">THA</a></td> <td><a href="#">Ayutthaya</a></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	Hitachi	HTC	JPN	Kitatsugaru, Aomori	<a href="#">HANA Thailand</a>	<a href="#">HNT</a>	<a href="#">THA</a>	<a href="#">Ayutthaya</a>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City													
Hitachi	HTC	JPN	Kitatsugaru, Aomori													
<a href="#">HANA Thailand</a>	<a href="#">HNT</a>	<a href="#">THA</a>	<a href="#">Ayutthaya</a>													
<b>Material Differences:</b>																
	Hitachi	<a href="#">HANA Thailand</a>														
Mount Compound	RZ241C	<a href="#">F400728</a>														
Mold compound	G600K	<a href="#">F450524</a>														
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 Form, Fit, Function, Quality or Reliability (positive / negative):</b>																
None																
<b>Changes to product identification resulting from this PCN:</b>																
<table border="1"> <thead> <tr> <th>Assembly Site</th> <th>Assembly Site Origin (22L)</th> <th>ASO:</th> </tr> </thead> <tbody> <tr> <td>Hitachi</td> <td>ASO: HTC</td> <td>ASO: HTC</td> </tr> <tr> <td><a href="#">HANA Thailand</a></td> <td>ASO: HNT</td> <td>ASO: <a href="#">HNT</a></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin (22L)	ASO:	Hitachi	ASO: HTC	ASO: HTC	<a href="#">HANA Thailand</a>	ASO: HNT	ASO: <a href="#">HNT</a>			
Assembly Site	Assembly Site Origin (22L)	ASO:														
Hitachi	ASO: HTC	ASO: HTC														
<a href="#">HANA Thailand</a>	ASO: HNT	ASO: <a href="#">HNT</a>														
Sample product shipping label (not actual product label)																
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;">  <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</p> <p><b>LBL: 5A (L)T0:1750</b></p> </div> <div style="width: 20%; text-align: center;">   </div> <div style="width: 45%;"> <p>(1P) <b>SN74LS07NSR</b></p> <p>(Q) <b>2000</b> (D) <b>0336</b></p> <p>(31T) LOT: 3959047MLA</p> <p>(4W) TKY (1T) 7523483SI2</p> <p>(P)</p> <p>(2P) REV: (V) 0033317</p> <p>(20L) CS0: SHE (21L) CCO: USA</p> <p>(22L) ASO: MLA (23L) ACO: MYS</p> </div> </div>					MSL '2 / 260C / 1 YEAR	SEAL DT	MSL 1 / 235C / UNLIM	03 / 29 / 04								
MSL '2 / 260C / 1 YEAR	SEAL DT															
MSL 1 / 235C / UNLIM	03 / 29 / 04															
ASSEMBLY SITE CODES: HIT = T, <a href="#">HNT</a> = H																

**Product Affected:**

74AVCH2T45DCTRE4	SN74AUC2G79DCTR	SN74LVC2G08DCTR	SN74LVC3G04DCTRG4
74AVCH2T45DCTTE4	SN74AUC2G80DCTR	SN74LVC2G08DCTRE4	SN74LVC3G06DCTR
74LVC1G123DCTRE4	SN74AUC2G80DCTRG4	SN74LVC2G08DCTRG4	SN74LVC3G06DCTRE4
74LVC1G123DCTRG4	SN74AUC2G86DCTR	SN74LVC2G125DCTR	SN74LVC3G07DCTR
74LVC1G123DCTTE4	SN74AUP1G99DCTR	SN74LVC2G132DCTR	SN74LVC3G07DCTRG4
74LVC1G123DCTTG4	SN74AUP1G99DCTT	SN74LVC2G157DCTR	SN74LVC3G14DCTR
74LVC1G139DCTRE4	SN74AVC2T45DCTR	SN74LVC2G157DCTR-P	SN74LVC3G14DCTR-P
74LVC1G139DCTTE4	SN74AVC2T45DCTRE4	SN74LVC2G157DCTRG4	SN74LVC3G14DCTRE4
74LVC2G125DCTR-P2	SN74AVC2T45DCTT	SN74LVC2G240DCTR	SN74LVC3G14DCTRG4
74LVC2G125DCTRE4	SN74AVC2T45DCTTG4	SN74LVC2G32DCTR	SN74LVC3G17DCTR
74LVC2G125DCTRG4	SN74AVCH2T45DCTR	SN74LVC2G32DCTRE4	SN74LVC3G17DCTRE4
74LVC2G132DCTRG4	SN74AVCH2T45DCTT	SN74LVC2G32DCTRG4	SN74LVC3G17DCTRG4
74LVC2G157DCTRE4	SN74LVC1404DCTR	SN74LVC2G38DCTR	SN74LVC3G34DCTR
74LVC2G240DCTRE4	SN74LVC1G123DCTR	SN74LVC2G66DCTR	SN74LVC3G34DCTR-P
LSF0102DCTR	SN74LVC1G123DCTT	SN74LVC2G66DCTRE4	SN74LVC3G34DCTRG4
SN74AUC2G00DCTR	SN74LVC1G139DCTR	SN74LVC2G66DCTRG4	SN74LVC3GU04DCTR
SN74AUC2G00DCTRE4	SN74LVC1G139DCTT	SN74LVC2G79DCTR	SN74TVC3306DCTR
SN74AUC2G02DCTR	SN74LVC1G29DCTR	SN74LVC2G80DCTR	SN74TVC3306DCTRE4
SN74AUC2G08DCTR	SN74LVC1G99DCTR	SN74LVC2G80DCTRG4	TCA9406DCTR
SN74AUC2G08DCTRE4	SN74LVC1G99DCTRG4	SN74LVC2G86DCTR	TS5A2053DCTR
SN74AUC2G08DCTRG4	SN74LVC1G99DCTT	SN74LVC2G86DCTRG4	TS5A2053DCTRE4
SN74AUC2G125DCTR	SN74LVC2G00DCTR	SN74LVC2T45DCTR	TXS0102DCTR
SN74AUC2G126DCTR	SN74LVC2G00DCTRE4	SN74LVC2T45DCTRE4	TXS0102DCTRE4
SN74AUC2G240DCTR	SN74LVC2G00DCTRG4	SN74LVC2T45DCTT	TXS0102DCTT
SN74AUC2G241DCTR	SN74LVC2G02DCTR	SN74LVC2T45DCTTG4	TXS0102DCTTE4
SN74AUC2G32DCTR	SN74LVC2G02DCTRE4	SN74LVC3G04DCTR	TXS0102DCTTG4
SN74AUC2G66DCTR	SN74LVC2G02DCTRG4	SN74LVC3G04DCTRE4	

# Qualification Report

## New Package: DCT package qual at HNT

Approve Date 18-Oct-2016

### Product Attributes

Attributes	Qual Device: PCA9306DCTR	Qual Device: TXS0102DCTR
Assembly Site	HNT	HNT
Package Family	SSOP	SSOP
Flammability Rating	UL 94 V-0	UL 94 V 0
Wafer Fab Supplier	SFAB	FFAB
Wafer Process	EPIC1ZS	A3C10TPI /P9785

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL1-260C:PCA9306DCTR, TXS0102DCTR

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: PCA9306DCTR	Qual Device: TXS0102DCTR
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
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0
HTSL	High Temp Storage Bake 170C	420 Hours	3/231/0	3/231/0
LI	Lead Fatigue	Leads	-	3/66/0
LI	Lead Pull to Destruction	Leads	-	3/66/0
PD	Physical Dimensions	--	-	3/15/0
SD	Surface Mount Solderability	Pb Free	-	3/66/0
SD	Surface Mount Solderability	Pb	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	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

# Qualification Report

## A-T / Device Offload into HNT DCT package

Approve Date 19-Oct-2016

### Product Attributes

Attributes	Qual Device: SN74LVC2G66DCTR	QBS Package Reference: TXS0102DCTR
Assembly Site	HNT	HNT
Package Family	SSOP	SSOP
Flammability Rating	UL 94 V-0	UL 94 V 0
Wafer Fab Supplier	FFAB	FFAB
Wafer Process	A3CTPI-8	A3C10TPI

- QBS: Qual By Similarity
- Qual Device SN74LVC2G66DCTR is qualified at LEVEL1-260C

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN74LVC2G66DCTR	QBS Package Reference: TXS0102DCTR
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
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	3/231/0
LI	Lead Fatigue	Leads	-	3/66/0
LI	Lead Pull to Destruction	Leads	-	3/66/0
PD	Physical Dimensions	--	-	3/15/0
SD	Surface Mount Solderability	Pb Free	-	3/66/0
SD	Surface Mount Solderability	Pb	-	3/66/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	3/231/0
WBP	Bond Pull	Wires	3/228/0	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

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>
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>