



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

**PCN# 20130419003**  
**Qualification of TI Clark as Additional Assembly Site and Die Revision**  
**for TPS56121DQPR/T and TPS56221DQPR/T Devices**  
**Change Notification / Sample Request**

**Date:** 5/8/2013  
**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 changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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  
Phone: +1(214) 480-6037  
Fax: +1(214) 480-6659

**20130419003**  
**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>
TPS56121DQPT	null
TPS56221DQPT	null

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

<b>PCN Number:</b>	20130419003			<b>PCN Date:</b>	05/08/2013									
<b>Title:</b>	Qualification of TI Clark as Additional Assembly Site and Die Revision for TPS56121DQPR/T and TPS56221DQPR/T Devices													
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Phone:</b>	+1(214)480-6037	<b>Dept:</b>	Quality Services									
<b>Proposed 1<sup>st</sup> Ship Date:</b>	08/08/2013		<b>Estimated Sample Availability:</b>	Date Provided at Sample request										
<b>Change Type:</b>														
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials									
<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification									
<input 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									
<b>PCN Details</b>														
<b>Description of Change:</b>														
<p>Qualification of TI Clark as additional assembly site for select TPS56121DQPR/T and TPS56221DQPR/T devices.</p> <p>This notification also includes a die revision. Affected devices are listed in Product Affected section.</p> <p><b>Assembly differences are shown in the following table:</b></p> <table border="1"> <thead> <tr> <th>Material</th> <th>SEM</th> <th>TI Clark</th> </tr> </thead> <tbody> <tr> <td>Mold compound</td> <td>200805</td> <td>4208625</td> </tr> <tr> <td>Lead finish</td> <td>Matte Sn</td> <td>NIpAu</td> </tr> </tbody> </table> <p>Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.</p> <p><b>Below are details of the design revision:</b></p> <p>Because of TI's commitment to continuous improvement the following design changes were made:</p> <ul style="list-style-type: none"> <li>• Increase high side gate pull-up resistance</li> <li>• Optimize the BOOT DIODE IC layout</li> <li>• Add internal snubber in NexFET</li> </ul> <p>No Datasheet changes are required.</p>						Material	SEM	TI Clark	Mold compound	200805	4208625	Lead finish	Matte Sn	NIpAu
Material	SEM	TI Clark												
Mold compound	200805	4208625												
Lead finish	Matte Sn	NIpAu												
<b>Reason for Change:</b>														
Continuity of supply and improved robustness of the device.														
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>														
None														
<b>Changes to product identification resulting from this PCN:</b>														

ECAT: E3 = Matte Sn  
ECAT: E4 = NiPdAu

#### Assembly Site

SEM	Assembly Site Origin (22L)	ASO: PAC	ECAT : E3
TI Clark Philippines	Assembly Site Origin (22L)	ASO: QAB	ECAT : E4

Die Rev designator will change as shown in table & sample label below:

Current	New
Die Rev [2P]	Die Rev [2P]
A	B

Sample product shipping label (not actual product label)

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

ASSEMBLY SITE CODES: SEM = E, TI-Clark = I

#### Product Affected:

SN1109022DQPR	TPS56121DQPT	TPS56221DQPR	TPS56221DQPT
TPS56121DQPR			

#### Qualification Data: Approved 04/16/2013

This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

#### Qual Vehicle : TPS56221DQP (MSL 2-260C)

#### Package Construction Details

Assembly Site:	TI Clark	Mold Compound:	4208625
# Pins-Designator, Family:	22-DQP, QFN	Mount Compound:	95Pb/5Sn
Leadframe (Finish, Base):	NiPdAu	Bond Wire:	0.96 Mil Dia., Au
Die Revision:	B		

Qualification: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> Test Results				
Reliability Test	Conditions	Sample Size / Fail		
		Lot 1	Lot 2	Lot3
Electrical Characterization	-	Pass	-	-
ESD CDM	+/- 250V	3	-	-
ESD HBM	+/- 1000V	3	-	-
Manufacturability Qualification (MQ)	-	Pass	Pass	Pass
**Temp Cycle, -55C/125C	500 Cycles	77/0	77/0	77/0
High Temp Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
HTOL High Temp Op Life	145C (400 Hrs)	77/0	77/0	77/0
**- Preconditioning sequence: Level 2-260C.				

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>