



**PCN# 20140218000  
Design Revision (NBTI Fix for Select TPS4005x Devices)  
Change Notification / Sample Request**

**Date:** 2/20/2014  
**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

**20140218000**  
**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>
TPS40055PWP	null
TPS40055PWPG4	null
TPS40055PWPR	null
TPS40057PWP	null
TPS40057PWPR	null

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

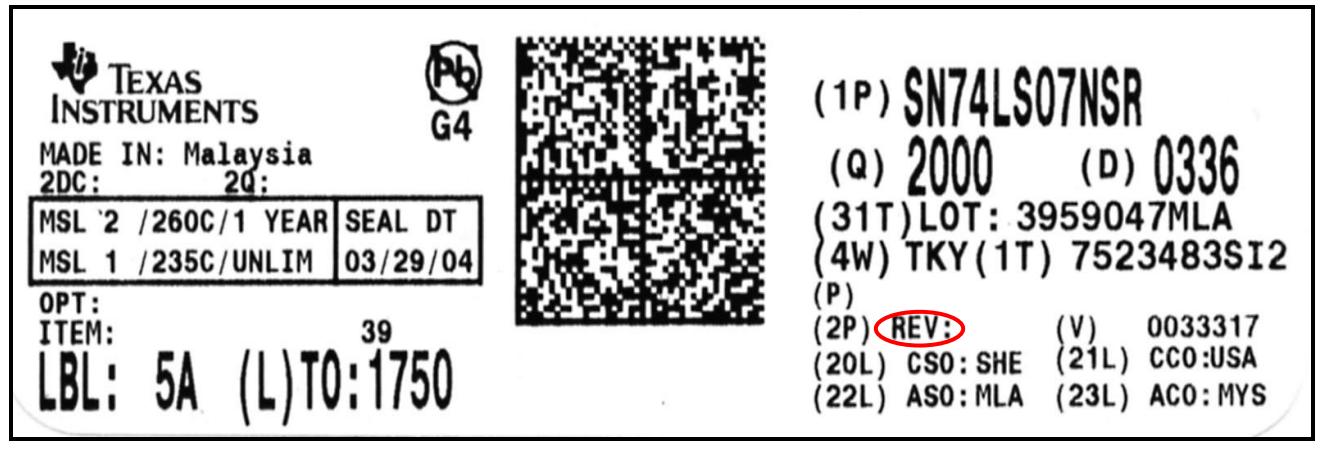
<b>PCN Number:</b>	20140218000			<b>PCN Date:</b>	2/20/2014
<b>Title:</b>	Design Revision (NBTI Fix for Select TPS4005x Devices)				
<b>Customer Contact:</b>	PCN Manager	<b>Phone:</b>	+1(214)480-6037	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	5/20/2014	<b>Estimated Sample Availability:</b>			Date provided at sample request
<b>Change Type:</b>					
<input type="checkbox"/> Assembly Site	<input type="checkbox"/>	Assembly Process	<input 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	
	<input type="checkbox"/>	Part number change			
<b>PCN Details</b>					
<b>Description of Change:</b>					
<p>This notification is to inform of a design revision for select TPS4005x devices. This design change does not affect the device's guaranteed datasheet specifications or electrical performance. The affected devices are listed in the "Product Affected" section.</p>					
<p>The table below describes changes that were made:</p>					
<b>Description of Change</b>		<b>Benefit of Change</b>			
Re-design to remove sensitivity over time to negative bias temperature instability (NBTI) under high temperature conditions.		Improve reliability			
<b>Reason for Change:</b>					
Improve reliability					
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>					
None					

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

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

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

Sample product shipping label to indicate die rev location (**not actual product label**)



**Product Affected:**

SN0405001PWPR	SN0805014PWPRG4	TPS40055PWPRG4	TPS40057PWPR
SN0405001PWPRG4	SN0806054PWPR	TPS40057PWP	TPS40057PWPRG4
SN0612074PWPR	TPS40055PWP	TPS40057PWP-P	TPS40057ZPWPR
SN0612074PWPRG4	TPS40055PWPG4	TPS40057PWP-PG4	
SN0805014PWPR	TPS40055PWPR	TPS40057PWPG4	

## **Qualification Data: Approved 2/14/2014**

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 1: TPS40055PWP**

#### **Package/Die Construction Details**

Assembly Site:	TI TAIWAN	# Pins-Designator, Family:	16-PWP, HTSSOP
Fab Process:	LBC4	Die Revision:	C

**Qualification:**  **Plan**  **Test Results**

Reliability Test	Conditions	Sample Size (PASS/FAIL)
Electrical Characterization, side by side	Per Datasheet Parameters	Pass

### **Qual Vehicle 2: TPS40057PWP**

#### **Package/Die Construction Details**

Assembly Site:	TI TAIWAN	# Pins-Designator, Family:	16-PWP, HTSSOP
Fab Process:	LBC4	Die Revision:	C

**Qualification:**  **Plan**  **Test Results**

Reliability Test	Conditions	Sample Size (PASS/FAIL)
Latch-up	(per JESD78)	6/0
Electrical Characterization, side by side	Per Datasheet Parameters	Pass
High Temp Operating Life	125C (1000 Hrs)	80/0
ESD HBM	1000V	3/3 **
ESD CDM	250V	3/0

\*\* This device fails ESD-HBM due to leakage on the SW pin. The device was released in 2004 with an HBM rating of 1KV. Several SW leakage tests were added to the final test program since RTM. The new SW leakage tests are failing now both on the old and new die rev.

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or to 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>