

PCN Number: 20140410000 **PCN Date:** 04/14/2014

Title: Design Revision (NBTI Fix for Select TPS40055x Devices)

Customer Contact: [PCN Manager](#) **Phone:** +1(214)480-6037 **Dept:** Quality Services

Proposed 1st Ship Date: 07/14/2014 **Estimated Sample Availability:** Date provided at sample request

Change Type:		
<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		

PCN Details

Description of Change:

This notification is to inform of a design revision for select TPS40055x 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.

The table below describes changes that were made:

Description of Change	Benefit of Change
Re-design to remove sensitivity over time to negative bias temperature instability (NBTI) under high temperature conditions.	Improve reliability

Reason for Change:

Improve reliability

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):




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] A	Die Rev [2P] C

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

 TEXAS INSTRUMENTS MADE IN: Malaysia 2DC: 2Q:			(1P) SN74LS07NSR (Q) 2000 (D) 0336 (31T) LOT: 3959047MLA (4W) TKY (1T) 7523483SI2 (P) (2P) REV: (V) 0033317 (20L) CS0: SHE (21L) CC0:USA (22L) AS0: MLA (23L) AC0: MYS				
<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>	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						
OPT: ITEM: 39 LBL: 5A (L)T0:1750							

Product Affected:			
MPL2674QPWPR	TPS40055MPWPREP	TPS40055MPWPREG4	V62/05617-01XE
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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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: <input type="checkbox"/> Plan <input checked="" type="checkbox"/> 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.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com