



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20151130000A**  
**Qualification of GTBF as Additional Assembly/Test Site**  
**for Select Devices**  
**Change Notification / Sample Request**

**Date:** 1/25/2016  
**To:** TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

Revision A is to announce the addition of new devices that were not included on the original PCN notification.

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

**20151130000A**  
**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>
UA78M05CKVURG3	null
TLV1117IKVURG3	null
TLV1117-33CKVURG3	null
LM317MKVURG3	null

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

<b>PCN Number:</b>	20151130000A		<b>PCN Date:</b>	01/25/2016												
<b>Title:</b>	Qualification of GTBF as Additional Assembly/Test Site for Select Devices															
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>		<b>Dept:</b>	Quality Services												
<b>Proposed 1<sup>st</sup> Ship Date:</b>	04/25/2016	<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"/> Wafer Bump Site														
<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Data Sheet	<input type="checkbox"/> Wafer Bump Material														
<input checked="" type="checkbox"/> Assembly Materials	<input type="checkbox"/> Part number change	<input type="checkbox"/> Wafer Bump Process														
<input type="checkbox"/> Mechanical Specification	<input checked="" type="checkbox"/> Test Site	<input type="checkbox"/> Wafer Fab Site														
<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process	<input type="checkbox"/> Wafer Fab Materials														
		<input type="checkbox"/> Wafer Fab Process														
<b>PCN Details</b>																
<b>Description of Change:</b>																
<p>Revision A is to announce the <u>addition</u> of new devices that were not included on the original PCN notification. These new devices are highlighted in the device list below under <b>Group 3</b> of the Product Affected section. The expected first shipment date for these new devices will be 90 days from this notice for these newly added devices only.</p> <p>Texas Instruments Incorporated is announcing the qualification of GTBF as additional assembly and test site for select devices listed in the "Product Affected" Section. Current assembly sites and Material differences are as follows.</p>																
<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>NFME</td> <td>NFM</td> <td>CN</td> <td>Nantong Jiangsu</td> </tr> <tr> <td><b>GTBF Ltd.</b></td> <td><b>GTF</b></td> <td><b>CN</b></td> <td><b>Sci. Park Phasell Shatin</b></td> </tr> </tbody> </table>					Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City	NFME	NFM	CN	Nantong Jiangsu	<b>GTBF Ltd.</b>	<b>GTF</b>	<b>CN</b>	<b>Sci. Park Phasell Shatin</b>
Assembly Site	Assembly Site Origin	Assembly Country Code	Assembly Site City													
NFME	NFM	CN	Nantong Jiangsu													
<b>GTBF Ltd.</b>	<b>GTF</b>	<b>CN</b>	<b>Sci. Park Phasell Shatin</b>													
<b>Material Differences:</b>																
<b>Group 1 Device (TO-263):</b>																
	<b>NFME</b>	<b>GTBF</b>														
Mount Compound	SID# A-05	EY0000006														
Mold Compound	SID# R-07	EN0000030														
Wire type	Au	Cu														
<b>Group 2 Device (TO-220):</b>																
	<b>NFME</b>	<b>GTBF</b>														
Mold Compound	SID#R-12	EN0000038														
Mount Compound (Solder)	SID#A-11	SS0000001														
<b>Group 3 Device (TO-252):</b>																
	<b>NFME</b>	<b>GTBF</b>														
Mount Compound	SID# A-05	EY0000006														
Mold Compound	SID# R-06	EN0000050														
Wire type	Au	Cu														
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

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

Assembly Site		
NFME	Assembly Site Origin (22L)	ASO: NFM
GTBF (Great Team Backend Foundry)	Assembly Site Origin (22L)	ASO: GTF

Sample product shipping label (not actual product label)



ASSEMBLY SITE CODES: NFME = E, GTBF = T

**Group 1 Product Affected:**

LM317KTTR	TL2575-ADJIKTTRG3	TL750L05CKTTRG3	TLV1117IKTTRG3
LM317KTTRG3	TL2575HV-05IKTTR	TL783CKTTR	UA7805CKTTR
TL2575-05IKTTR	TL2575HV-05IKTTRG3	TL783CKTTRG3	UA7805CKTTRG3
TL2575-05IKTTRG3	TL2575HV-33IKTTR	TLV1117CKTTR	UA7812CKTTR
TL2575-33IKTTR	TL2575HV-ADJIKTTR	TLV1117CKTTRG3	UA7812CKTTRG3
TL2575-ADJIKTTR	TL750L05CKTTR	TLV1117IKTTR	

**Group 2 Product Affected:**

CSD18502KCS	CSD18532KCS	CSD18542KCS	CSD19533KCS
CSD18503KCS	CSD18533KCS	CSD19501KCS	CSD19534KCS
CSD18504KCS	CSD18534KCS	CSD19503KCS	XCSD18542KCS
CSD18532DKCS	CSD18537NKCS	CSD19531KCS	

**Group 3 Product Affected:**

LM317MKVURG3	TLV1117-25CKVURG3	TLV1117CKVURG3	UA78M33CKVURG3
TLV1117-15IKVURG3	TLV1117-33CKVURG3	TLV1117IKVURG3	UA78M33IKVURG3
TLV1117-18CKVUR	TLV1117-33IKVURG3	UA78M05CKVURG3	
TLV1117-18CKVURG3	TLV1117-50CKVURG3	UA78M05IKVURG3	
TLV1117-18IKVURG3	TLV1117-50IKVURG3	UA78M10CKVURG3	

# **Group 1: Qualification Report** **Qualify GTBF as Subcon A/T site for PWR Packages:** **Phase 1 Devices for KTT (3 and 5 pin)**

## **Product Attributes**

Attributes	Qual Device: LM317KTTR	Qual Device: TL2575-05IKTTR	Qual Device: TL750L05CKTTR
Assembly Site	GTBF	GTBF	GTBF
Package Family	TO-263 -KTT	TO-263 -KTT	TO-263 -KTT
Flammability Rating	UL 94 V-0	-	UL 94 V-0
Wafer Fab Supplier	SFAB	SFAB	SFAB
Wafer Process	J11	J11	J11

- QBS: Qual By Similarity

- Qual Devices qualified at LEVEL3-245C: TL2575-05IKTTR, LM317KTTR, TL750L05CKTTR

## **Qualification Results**

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

Type	Test Name / Condition	Duration	Qual Device: LM317KTTR	Qual Device: TL2575-05IKTTR	Qual Device: TL750L05CKTTR
AC	Autoclave 121C	96 Hours	3/231/0	1/77/0	3/231/0
CDM	ESD - CDM	1000 V	-	-	3/9/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-	3/30/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-
HTOL	Life Test, 125C	336 Hours	-	1/77/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	3/231/0	-	3/231/0
PD	Physical Dimensions	--	3/15/0	-	3/15/0
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	1/77/0	3/231/0
TS	Thermal Shock -65/150C	500 Cycles	-	-	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

# Group 2 Qualification Report

## A/T Site Qualification of GTBF using CSD18532KCS (TO-220) as Driver Vehicle

### Product Attributes

Attributes	Qual Device: CSD18532KCS
Assembly Site	GTBF
Package Family	TO-220
Flammability Rating	UL-94V-0
Wafer Fab Supplier	CFAB
Wafer Fab Process	FET

- QBS: Qual By Similarity
- Qual Device CSD18532KCS is qualified at Not Classified

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: CSD18532KCS
IOL	Intermittent Operating Life	2min 'on' / 2min 'off' for 10K cycles; 100°C Tj rise from 25°C to 125°C	3/231/0
PC	Convection Reflow	24hrs/125°C dry bake	3/900/0
PC	Convection Reflow	3x reflows/260°C +5°C/-0°C	3/900/0
AC	Autoclave 121°C	121°C, ~100%RH, 2Atm, 96hrs	3/231/0
TC	Temperature Cycle	-65°C/+150°C, 500 cycles	3/231/0
THB	Biased Temperature and Humidity	85°C/85%RH/80%Vds(max), 1000hrs	3/231/0
MQ	A/T Site Manufacturability	(per mfg. Site specification)	Pass

- Preconditioning was performed prior to Autoclave, THB & Temperature Cycle, as applicable
  - The following are equivalent Temp Cycle options per JESD47: -55°C/125°C/700 Cycles and -65°C/150°C/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 3 Qualification Report

### Qualify GTBF as subcon A/T site for PWR Packages: TO-252 –KVU (3 pin)

#### Product Attributes

Attributes	Qual Device: TLV1117-50IKVURG3	Qual Device: TLV1117IKVURG3
Assembly Site	GTBF	GTBF
Package Family	-	TO-252 -KVU
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	SHE SFAB	SHE SFAB
Wafer Process	J11	J11

- QBS: Qual By Similarity
- Qual Devices qualified at LEVEL3-245C: TL2575-05IKTTR, LM317KTTR, TL750L05CKTTR
- Qual Devices qualified at LEVEL3-260C: TLV1117IKVURG3, TLV1117-50IKVURG3

#### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TLV1117-50IKVURG3	Qual Device: TLV1117IKVURG3
-	Burn-in, 125C	336 Hours	-	-
AC	Autoclave 121C	96 Hours	-	3/231/0
CDM	ESD - CDM	1000 V	-	3/9/0
ED	Electrical Characterization	Per Datasheet Parameters	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0
PD	Physical Dimensions	--	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	3/231/0
TS	Thermal Shock, -65/150C	500 Cycles	-	-
WBP	Bond Pull	Wires	-	-
WBS	Ball Bond Shear	Wires	-	-

- 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>