12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN 20140206000
TLC6C598QPWRQ1 BOM
Final Change Notification

Date: 2/18/2014
To: MOUSER PCN

Dear Customer:

This is an announcement of change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

Texas Instruments requires acknowledgement of 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. 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.

If samples or additional data are required, requests must be received within 30 days of acknowledgement as samples are not built ahead of the change. You may contact the PCN Manager or your local Field Sales Representative to acknowledge this PCN and request samples or additional data.

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).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20140206000
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.

DEVICE	CUSTOMER PART NUMBER
TLC6C598QPWRQ1	null

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

PCN Number:	20140206000			**PCN Date:**	02/18/2014
Title:	TLC6C598QPWRQ1 BOM				
Customer Contact:	PCN_ww_admin_team@list.ti.com	**Phone:**	+1(214)480-6037	**Dept:**	Quality Services
Proposed 1st Ship Date:	08/18/2014	**Estimated Sample Availability:**	Date provided at sample request		

Change Type:

☐	Assembly Site	☐	Design	☐	Wafer Bump Site
☐	Assembly Process	☐	Data Sheet	☐	Wafer Bump Material
☒	Assembly Materials	☐	Part number change	☐	Wafer Bump Process
☐	Mechanical Specification	☐	Test Site	☐	Wafer Fab Site
☐	Packing/Shipping/Labeling	☐	Test Process	☐	Wafer Fab Materials
				☐	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments Incorporated is announcing the qualification for TLC6C598QPWRQ1 copper wire and universal BOM

Die rev	B0	B1
Mold Compound	4206193	4211471
Bond Wire	Au	CU

Reason for Change:

Improved adhesion and reliability

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

No anticipated impact.

Changes to product identification resulting from this PCN:

None

Product Affected:

TLC6C598QPWRQ1

Automotive New Product Qualification Plan/Summary

(As per AEC-Q100 and JEDEC Guidelines)

Supplier Name:	Texas Instruments Inc.	**Supplier Wafer Fabrication Site:**	DMOS5,Dallas, USA
Supplier Code:		**Supplier Die Rev:**	B1
Supplier Part Number:	TLC6C598QPWRQ1	**Supplier Assembly/Test Site:**	TITL, Taiwan
Customer Name:		**Supplier Package/Pin:**	PW/16
Customer Part Number:		**Pb-Free Lead Frame (Y/N):**	Y
Device Description:	8-BIT SHIFT REGISTER LED DRIVER	**"Green" Mold Compound (Y/N):**	Y
MSL Rating:	LEVEL3	**Operating Temp Range:**	-40C to 125C
Peak Solder Reflow Temp:	260C	**Automotive Grade Level (1):**	1 (Q)
Date:	Qi Gao	**Date:**	1/27/2014

Test	#	Reference	Test Conditions	Min Lots (2)	SS / lot (2)	Min Total (2)	Results Lot/pass /fail	Comments: (N/A =Not Applicable)	Exceptions to AEC -Q100
TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS (3)									
PC	A1	JESD22-113 J-STD-020	Preconditioning: SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL, and HTOL	Performed on ALL SMD devices prior to THB/HAST, AC/UHST, TC and PTC					
THB or HAST	A2	JESD22-A101 JESD22-A110	Temperature Humidity Bias: 85°C/85%/1000 hours Highly Accelerated Stress Test: 130°C/85%/96 hours	3	77	231	3/231/0	3 lots QBS to current BOM	
AC or UHST	A3	JESD22-A102 JESD22-A118	Autoclave: 121°C/15 psig/96 hours Unbiased Highly Accelerated Stress Test: 130°C/85%/96 hours	3	77	231	3/231/0	3 lots QBS to current BOM	
TC	A4	JESD22-A104	Temperature Cycle: -65°C/+150°C/500 cycles Post Temperature Cycle Bond Pull: 3 grams minimum	1 1	77 5	77 5	1/77/0 1/5/0	Passed	
PTC	A5	JESD22-A105	Power Temperature Cycling: -40°C/+125°C/1000 cycles	1	45	45	1/45/0	1 lot QBS to current BO	
HTSL	A6	JESD22-A103	High Temperature Storage Life: 150°C/1000 hours or 175°C/500 hours	1	45	45	1/45/0	1 lot QBS to current BO	
TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS (3)									
HTOL	B1	JESD22-A108	High Temp Operating Life: 150°C/408 hours	3	77	231	3/231/0	TIDREL.12.MSA-APD.06004 (TLC6C598) QBS to MSPREL.12.TPS65300.01001 (TPS65300) MSPREL.12.TPS65300.01002 (TPS65300)	
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: **125°C / 48 hours** 150°C / 24 hours	3	800	2400	3/2400/0	QBS to MSPREL.12.TPS65300.01001 (TPS65300) MSPREL.12.TPS65300.01002 (TPS65300) MSPREL.12.TPS65300.01003 (TPS65300)	

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS (3)

WBS	C1	AEC-Q100-001	Wire Bond Shear Test: (Cpk > 1.67)	30 bonds	5 parts min.	30 bonds	1/30/0	Manufacturing Qualification Data	
WBP	C2	Mil-Std-883 Method 2011	Wire Bond Pull: Each bonder used (Ppk > 1.67 and Cpk > 1.33 or 0 Fails after TC)	30 bonds	5 parts min.	30 bonds	1/30/0	Manufacturing Qualification Data	
SD	C3	JESD22-B102	Solderability: (>95% coverage) 8 hr steam age	1	22	22	1/22/0	Manufacturing Qualification Data	
PD	C4	JESD22-B100 JESD22-B108	Physical Dimensions: (Ppk > 1.67 and Cpk > 1.33)	1	10	10	1/10/0	Manufacturing Qualification Data	

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

EM	D1	JESD61	Electromigration:	-	-	-		Passed	
TDDB	D2	JESD35	Time Dependant Dielectric Breakdown:	-	-	-		N/A	
HCI	D3	JESD60 & 28	Hot Injection Carrier:	-	-	-		N/A	

TEST GROUP E- ELECTRICAL VERIFICATION

TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test:	All	All	All		100% of qualification devices	
HBM	E2	AEC-Q100-002	Electrostatic Discharge, Human Body Model: (2kV - H2 or better)	1	3	3	500V 3/0 1000V 3/0 1500V 3/0 2000V 3/0	1 lot QBS to current BOM	
CDM	E3	AEC-Q100-101	Electrostatic Discharge, Charged Device Model: (750V corner leads, 500V for all other pins)	1	3	3	250V 3/0 500V 3/0 750 V 3/0	1 lot QBS to current BOM	
LU	E4	AEC-Q100-004	Latch-Up:	1	6	6	1/6/0	1 lot QBS to current BOM	
ED	E5	AEC-Q100-009	Electrical Distributions: (Test across recommended operating temperature range) (Cpk > 1.67, Ppk > 1.67)	1	30	30	125C 30/0 25C 30/0 -40C 30/0	Data available	

ADDITIONAL INFORMATION

(1) Grade 0 (or A): -40°C to +150°C ambient operating temperature range
Grade 1 (or Q): -40°C to +125°C ambient operating temperature range
Grade 2 (or T): -40°C to +105°C ambient operating temperature range
Grade 3 (or I): -40°C to +85°C ambient operating temperature range
Grade 4 (or C): -0°C to +150°C ambient operating temperature range

(2) These are recommended minimum lot/sample sizes. Lot/sample size may be reduced depending on available data.

(3) Generic data may be used.

Quality and Reliability Data Disclaimer

TI assumes no liability for applications assistance or customer product design. Customers are responsible for their products and applications using TI components. To minimize the risks associated with customer products and applications, customer should provide adequate design and operating safeguards. Quality and reliability data provided by Texas Instruments is intended to be an estimate of product performance based upon history only. It does not imply that any performance levels reflected in such data can be met if the product is operated outside the conditions expressly stated in the latest published data sheet or agreed-to customer specification for a device.

Reliability data shows characteristic failure mechanisms of the specific environmental stress as documented in the industry standards for each stress condition.

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	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com