12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN 20150605001
TLC555QDRQ1 alternate site
Final Change Notification

Date: 7/16/2015
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

20150605001
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
TLC555QDRQ1	null

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

PCN Number:	20150605001			**PCN Date:**	07/16/2015
Title:	TLC555QDRQ1 alternate site				
Customer Contact:	PCN Manager	**PCN Type:**	180 day	**Dept:**	Quality Services
Proposed 1st Ship Date:	01/16/2016	**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 of TLC555QDRQ1 for assembly site TI Malaysia. Test site remains in TI Mexico.
TLC555QDRQ1 will go from single source to dual source. BOM will also change as outlined in Table 1.

From:
TI Mexico A/T

To:
TI Mexico A/T and multi-factory flow TI Malaysia Assembly and TI Mexico Test.

Table 1:

Material	TI Mexico Assy BOM	TI Malaysia Assy BOM
Leadframe	4211297-0001	No change
Mold Compound	4205694-0010	4209640-0001
Die Attach	4147858-0005	4208458-0001

Reason for Change:

Continuity of supply

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

None

Changes to product identification resulting from this PCN:

Current box label:

Assembly site	Assembly site origin (22L)	Assembly country origin (23L)
TI Mexico	MEX	MEX

New box label:

Assembly site	Assembly site origin (22L)	Assembly country origin (23L)
TI Mexico	MEX	MEX

Or

Assembly site	Assembly site origin (22L)	Assembly country origin (23L)
TI Malaysia	MLA	MYS

Example product shipping label (not actual product label)

Product Affected:

TLC555QDRQ1

Automotive New Product Qualification Summary

(As per AEC-Q100 and JEDEC Guidelines)

Supplier Name:	Texas Instruments Inc.	**Supplier Wafer Fabrication Site:**	DFAB, Dallas, Texas/ 5/5CMOS
Supplier Code:		**Supplier Die Rev:**	F
Supplier Part Number:	TLC555ZQDRQ1	**Supplier Assembly/Test Site:**	TI Malaysia/Mexico
Customer Name:	Catalog	**Supplier Package/Pin:**	D / 8 pin
Customer Part Number:	TLC555ZQDRQ1	**Pb Free Lead Frame (Y/N):**	Y
Device Description:	LinCMOS Timers	**"Green" Mold Compound (Y/N):**	Y
MSL Rating:	Level-1	**Operating Temp Range:**	-40°C to 125°C
Peak Solder Reflow Temp:	L2/260C	**Automotive Grade Level (1):**	Level 1
Prepared by Signature:	Uma Annamalai	**Date:**	09/20/2014

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 Testing
TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS (3)									
PC	A1	JESD22 A113 J-STD-020	Preconditioning; SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL, & HTOL	Performed on ALL SMD devices, Prior to THB, AC, TC & PTC			All/0		
HAST	A2	JESD22 A110	Highly Accelerated Stress Test: 130°C/85% 96 hours	3	77	231	3/231/0	QBS to package and A/T data. TPS5420QDRRB	
AC	A3	JESD22 A102	Autoclave: 121C / 96 hours	3	77	231	3/231/0	QBS to package and A/T data. TPS5420QDRRB	
TC	A4	JESD22 A104	Temperature Cycle: -65°C/+150°C 1000 cycles Post Temp Cycle Bond Pull 3 grams minimum (30 bonds Total) Temperature Cycle: -65°C/+150°C 1000 cycles Post Temp Cycle Bond Pull 3 grams minimum (30 bonds Total)	3 1	77 77	231 77	3/231/0 1/5/0 1/77/0 1/5/0	QBS to package and A/T data. TPS5420QDRRB Performed on TLC555ZQDRQ1	
PTC	A5	JESD22-A105	Power Temperature Cycle: -40°C to +125°C for 1000 cycles	1	45	45	N/A	Power consumption < 1Watt	
HTSL	A6	JESD22 A103	High Temperature Storage Life: 175°C/500 hours	1	45	45	1/45/0	QBS to package and A/T data. TPS5420QDR	

								RB	

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	QBS to Fab process TLC3702QD RG4Q1	
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: 125°C/48 hours 150°C/24hours	3	800	2400	3/2400/0	QBS to Fab process TLC3702QD RG4Q1	

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS (3)

WBS	C1	AEC-Q100-001	Wire Bond Shear Test: (Ppk > 1.67 and Cpk > 1.33)	30 bonds	5 parts Min.	30 bonds	1/30/0	MQ Report	
WBP	C2	Mil-Std-883 Method 2011	Wire Bond Pull: Each bonder used (Ppk > 1.67 and Cpk > 1.33)	30 bonds	5 parts Min.	30 bonds	1/30/0	MQ Report	
SD	C3	JESD22 B102	Solderability: (>95% coverage) 8 hr steam age	1	22	22	1/22/0	MQ Report	
PD	C4	JESD22 B100, JESD22 B108	Physical Dimensions: (Ppk > 1.67 and Cpk > 1.33)	3	10	30	1/30/0	MQ Report	
SBS	C5	AEC-Q100-010	Solder Ball Shear: (Ppk > 1.67 and Cpk > 1.33)	50 balls	3	50		N/A to non-solder ball surface mount devices	
LI	C6	JESD22 B105 Not Required for SMT parts	Lead Integrity: (No lead cracking or breaking)	50 leads	1	50		N/A to non PDIP devices	

TEST GROUP D – DIE FABRICATION RELIABILITY TESTS

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 Testing**
EM	D1	JESD61	Electromigration: (Only if de-rating required beyond design rules)	-	-	-		Data Available	
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	1	3	3	500V 3/0 1000V 3/0	TLC555QD RHT Classification 1C	
CDM	E3	AEC-Q100-011	Electrostatic Discharge, Charged Device Model; (750V corner leads, 500V for all other leads)	1	3	3	250V 3/0 500V 3/0 750V 3/0	TLC555ZQ DRQ1 Classification C4B	
LU	E4	AEC-Q100-004	Latch-Up:	1	6	6	1/6/0		
ED	E5	AEC-Q100-009	Electrical Distributions: (Test across recommended operating temperature range) (Cpk > 1.67 , Ppk > 1.67)	1	30	30	1/30/0	30 units datalog taken at room, high and cold	

								temp	

(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