12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20130905001
TAS5414 copper wire – CMS C1309042
Final Change Notification

Date: 9/6/2013
To: MOUSER PCN

Dear Customer:

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

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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. If you require samples to conduct an evaluation, please request within the 30 days— samples are not built ahead of the change. Please see the schedule on the following pages for sample availability dates. You may contact the PCN Manager or your local Field Sales Representative to acknowledge this PCN and request samples.

The changes discussed within this PCN will not take effect any earlier than the proposed 1st ship date indicated on the following pages, unless customer agreement has been reached on an earlier implementation of the change.

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

20130905001
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
TAS5414ATPHDQ1	null
TAS5414ATPHDMQ1	null

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

PCN Number:	20130905001	**PCN Date:**	09/06/2013
Title:	TAS5414 copper wire – CMS C1309042		
Customer Contact:	PCN_ww_admin_team@list.ti.com	**Phone:** +1(214)480-6037	**Dept:** Quality Services
Proposed 1st Ship Date:	03/06/2014	**Estimated Sample Availability:**	Upon request

Change Type:

☐	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☐	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☐	Wafer Fab Site	☐	Wafer Fab Materials	☐	Wafer Fab Process

PCN Details

Description of Change:

Change the TAS5414 device from gold to copper bond wire.

Reason for Change:

Texas Instruments plans to convert devices from gold to copper bond wire where possible.

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:

TAS5414ATPHDMQ1
TAS5414ATPHDQ1
TAS5414ATPHDRMQ1
TAS5414ATPHDRPA
TAS5414ATPHDMQ1

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

See Qualification Data on the following pages

Automotive New Product Qualification Plan/Summary
(As per AEC-Q100 and JEDEC Guidelines)

Supplier Name:	Texas Instruments Inc.	**Supplier Wafer Fabrication Site:**	Dallas, Texas, USA (TI DMOS5)
Supplier Code:		**Supplier Die Rev:**	D2
Supplier Part Number:	TAS5414BTPHDRQ1	**Supplier Assembly/Test Site:**	TI Taiwan (TAI), Taipei ,Taiwan
Customer Name:	Catalog	**Supplier Package/Pin:**	PHD / 64
Customer Part Number:	TAS5414BTPHDRQ1	**Pb Free Lead Frame (Y/N):**	Y
Device Description:	FOUR-CHANNEL AUTOMOTIVE DIGITAL AMPLIFIERS	**"Green" Mold Compound (Y/N):**	Y
MSL Rating:	3	**Operating Temp Range:**	TA= --40°C to +105°C
Peak Solder Reflow Temp:	260°C	**Automotive Grade Level (1):**	Level 2
Prepared by Signature:	Alfredo Martinez	**Date:**	1/18/2012

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 A113 J-STD-020	Preconditioning; SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL	Performed on ALL SMD devices, Prior to THB, AC, TC , PTC, HTSL					
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	3/231/1	QTS 337904-1 (EOS)	
AC or UHST	A3	JESD22 A102 or JESD22 A118	Autoclave: 121C / 96 hours Unbiased Highly Accelerated Stress Test:	3	77	231	3/231/0		
TC	A4	JESD22 A104	Temperature Cycle: -65°C/+150°C/ 500 cycles Post Temp Cycle Bond Pull 3 grams minimum (30 bonds Total)	3 1	77 5	231 0	3/231/1 1/5/0	QTS 338008-1 (EOS)	
PTC	A5	JESD22-A105	Power Temperature Cycle: -40°C to +105°C for 1000 cycles	1	45	45	1/45/0		
HTSL	A6	JESD22 A103	High Temperature Storage Life: 150°C/1000 hours	1	45	45	1/45/0		
TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS (3)									
HTOL	B1	JESD22 A108	High Temp Operating Life: 125°C/1000 hours	3	77	231	3/231/0		
ELFR	B2	AEC-Q100-008	Early Life Failure Rate: 125°C/ 1000hours	3	800	2400	4/2400/0		.
NVM Endurance, Data Retention, and Operational Life	B3	AEC Q100-005	NVM Endurance, Data Retention, and Operational Life	3	77	231		N/A	

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	1/80/0		
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	1/80/0		
SD	C3	JESD22 B102	Solderability: (>95% coverage) 8 hr steam age	1	15	15	1/15/0		
PD	C4	JESD22 B100, JESD22 B108	Physical Dimensions: (Ppk > 1.67 and Cpk > 1.33)	3	10	30	3/30/0		
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-solder ball surface mount 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**
EM	D1	JESD61	Electromigration: (Only if de-rating required beyond design rules)	-	-	-	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	1	3	3	500V 3/0 1000V 3/0 1500V 3/0 2000V 3/0 2500V 3/0 3000V 3/0	Passed 3000V	
MM	E2	AEC-Q100-003	Machine Model:	1	3	3	100V 3/0 200V 3/3	Passed 100V	
CDM	E3	AEC-Q100-011	Electrostatic Discharge, Charged Device Model; (750V corner leads, 500V for all other leads)	1	3	3	All pins except CP and CP_Top 600V 3/0 CP and CP_Top pins 400V 3/0 Corner pins excluding SCL 750V 3/0	Passed 600V excluding CP and CP_Top pins Passed 400V Passed 750V excluding SCL pin	ESD CDM < 500V for CP and CP_Top pins ESD CDM < 750V for SCL pin.
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)	3	90	90	3/90/0 25°C, 105°C, -40°C		

(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.