



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN#20170112001
Die Coating change for Select Devices
Change Notification / Sample Request**

Date: January 16, 2017
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

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 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.

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

20170112001
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
HDC1000YPAT	null
HDC1008YPAR	null
HDC1050DMBT	null

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

PCN Number:	20170112001			PCN Date:	Jan 16 2017								
Title:	Die Coating change for Select Devices												
Customer Contact:	PCN Manager	Dept:	Quality Services										
Proposed 1st Ship Date:	April 16 2017		Estimated Sample Availability:	Date provided at sample request									
Change Type:													
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Site								
<input checked="" 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 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								
PCN Details													
Description of Change:													
<p>This notification is to announce the change in die coat material set for the 2 groups of devices noted below as follows:</p> <p>Group 1 Devices</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Current</th> <th>Proposed</th> </tr> </thead> <tbody> <tr> <td>Die Overcoat</td> <td>No Die overcoat</td> </tr> </tbody> </table> <p>Group 2 Devices:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Current</th> <th>Proposed</th> </tr> </thead> <tbody> <tr> <td>Polyimide Overcoat</td> <td>PBO overcoat</td> </tr> </tbody> </table>						Current	Proposed	Die Overcoat	No Die overcoat	Current	Proposed	Polyimide Overcoat	PBO overcoat
Current	Proposed												
Die Overcoat	No Die overcoat												
Current	Proposed												
Polyimide Overcoat	PBO overcoat												
Reason for Change:													
Group 1: Die Coat not needed with Current Material Set Group 2: Move to standardized material set													
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):													
None													
Anticipated impact on Material Declaration													
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website .										
Changes to product identification resulting from this PCN:													
None													

Product Affected:**Group #1 Device List:**

TL032ACD	TL032AID	TL052ACD	TL052AID
TL032ACDR	TL032AIDR	TL052ACDR	TL052AIDR

Group #2 Device List:

HDC1000YPAR	HDC1008YPAR	HDC1050DMBR	HDC1050DMBT
HDC1000YPAT	HDC1008YPAT		

Group #1 Qualification Data:**Reference Qualification Data: Approved September, 2012****Qualification Vehicle: LM358DR (MSL 1-260C)****Package / Die Construction Details**

Assembly Site:	TI Mexico	Mold Compound:	4211880
# Pins-Designator, Family:	8-D, SOIC	Mount Compound:	4147858
Leadframe (Finish, Base):	NiPdAu, Cu	Bond Wire:	0.96 Mil Dia., Cu

Qualification: ☐ Plan ☒ Test Results

Reliability Test	Conditions	Sample Size (PASS/FAIL)		
		Lot#1	Lot#2	Lot#3
Steady-state Life Test	150C (168, 300 hrs)	77/0	-	-
Electrical Characterization	-	30/0	-	-
**High Temp. Storage Bake	170C (420hrs)	77/0	-	-
**Biased HAST	130C/85%RH (96 Hrs)	77/0	-	-
**Autoclave 121C	121C, 2 atm (96 Hrs)	77/0	-	-
**T/C -65C/150C	-65C/+150C (500, 1000* Cyc)	77/0	77/0	77/0
Visual / Mechanical	-	328/0	-	-
Lead Pull	# of leads to destruction, min. 3 units	22/0	-	-
Bond Strength	76 ball bonds, min. 3 units	76/0	-	-
Die Shear	-	10/0	-	-
Manufacturability	(per mfg. Site specification)	1/0	-	-
**Thermal Shock	-65C/+150C (500, 1000* Cyc)	77/0	77/0	77/0
X-ray	(top side only)	5/0	-	-
Moisture Sensitivity	(level 1 @ 260C peak +5/-0C)	12/0	12/0	12/0
Notes ** - Preconditioning sequence: Level 1-260C.				

Group #2 Qualification Data:



TI Information
Selective Disclosure

Qualification Report

HDC1010YPA New Product Qualification Approve Date 08-Sep-2016

Product Attributes

Attributes	Qual Device: HDC1010YPA	QBS Product Reference: HDC1000	QBS Process Reference: LM3533
Wafer Fab Supplier	MFAB	MFAB	MFAB
Wafer Process	CMOS9T5V	CMOS9T5V	CMOS9T5V
Assembly Site	TIEM-MALACCA	TIEM-MALACCA	TIEM-MALACCA
Package Family	WCSP	WCSP	WCSP
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0

- QBS: Qual By Similarity

- Qual Device HDC1010 is qualified at LEVEL1-260C

Qualification Results

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



Type	Test Name / Condition	Duration	Qual Device: HDC1010YPA	QBS Product Reference: HDC1000	QBS Process Reference: LM3533
PC	PreCon Level 1	Level 1-260C	3/924/0	-	-
HTOL	Life Test, 125C	1000 Hours	1/77/0	1/77/0	2/154/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/231/0	-	-
TC	Temperature Cycle, -40/125C	850 Cycles	3/231/0	-	-
HTSL	High Temp Storage Bake 150C	1000 Hours	3/231/0	-	-
HBM	ESD - HBM	1000 V	1/3/0	-	-
CDM	ESD - CDM	750 V	1/3/0	-	-
LU	Latch-up	(per JESD78)	1/6/0	-	-
ED	Electrical Characterization	Per Datasheet Parameters	3/Pass	-	-
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	3/Pass	-	-
MQ	Manufacturability (Wafer Fab)	(per mfg. Site specification)	1/Pass	-	-

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