



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN#20160602000B
BGA Tray Change
Final Change Notification**

Date: April 06, 2017
To: PREMIER FARNELL PCN

Dear Customer:

Revision B is to update the description of change to provide correction on the tray matrix for Group 1 devices. We apologize for any inconvenience this may have caused.

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 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).

Sincerely,

PCN Team
SC Business Services

20160602000B
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
TM4C123GH6ZRBT	null

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

PCN Number:	20160602000B		PCN Date:	April 06. 2017
Title:	BGA Tray Change			
Customer Contact:	PCN Manager		Dept:	Quality Services
Change Type:				
<input type="checkbox"/> Assembly Site	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Assembly Materials		
<input type="checkbox"/> Design	<input type="checkbox"/> Electrical Specification	<input type="checkbox"/> Mechanical Specification		
<input type="checkbox"/> Test Site	<input checked="" type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process		
<input type="checkbox"/> Wafer Bump Site	<input type="checkbox"/> Wafer Bump Material	<input type="checkbox"/> Wafer Bump Process		
<input type="checkbox"/> Wafer Fab Site	<input type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Wafer Fab Process		
<input type="checkbox"/> Part number change				

PCN Details

Description of Change:

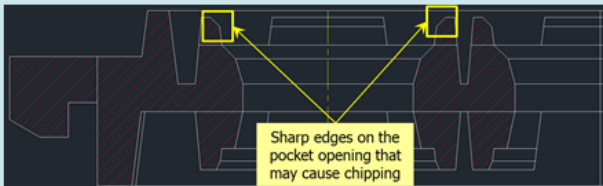
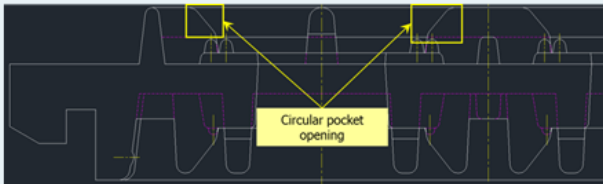
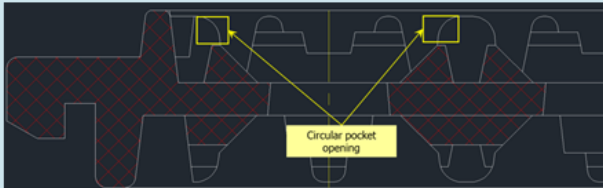
Revision B is to update the description of change to provide correction on the tray matrix for Group 1 devices.

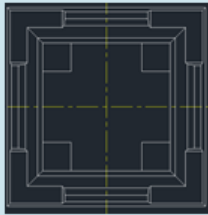
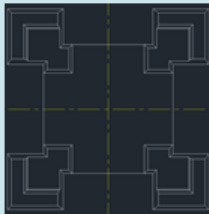
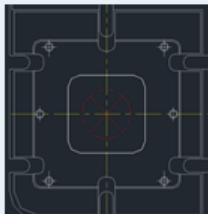
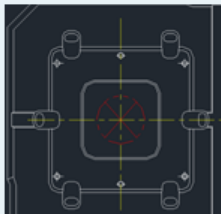


Texas Instruments is pleased to announce the qualification of PEAK tray for the devices listed under the Product Affected section. Tray comparison summary as follows:

Group 1 Device: 9x9mm BGA Tray

What	From	To
Stock #/Supplier	4204956-0001/OHKAWA 4209920-0001/KOSTAT	4222683-0001/PEAK
Matrix (Column x Rows)	8x21/10x26	10x26
Surface Resistivity, Ohms/Sq.	10 ⁵ to 10 ⁹	10 ⁵ to 10 ⁹
Raw Material	PPE / MPPO	MPPO
Tray Color	Black	Black
Temperature Rating	150 °C	150 °C

TRAY DESIGN CONSIDERATION and COMPARISON

TRAY	POCKET OPENING
4209920-0001 (Kostat)- CURRENT	 Sharp edges on the pocket opening that may cause chipping
4204956-0001 (Ohkawa)- CURRENT	 Circular pocket opening
4222683-0001 (PEAK)- PROPOSED	 Circular pocket opening

TRAY	FENCE DESIGN	
	TOP	BOTTOM
4209920-0001 (Kostat)- CURRENT		
4204956-0001 (Ohkawa)- CURRENT		
4222683-0001 (PEAK)- PROPOSED		

Dimensional Comparison:

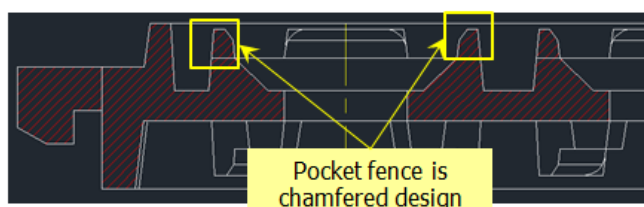
Items Description	4209920-0001 (Kostat)			4204956-0001 (Ohkawa)			4222683-0001 (PEAK)			REMARKS
	DIM	Upper Limits	Lower Limits	DIM	Upper Limits	Lower Limits	DIM	Upper Limits	Lower Limits	
Overall Length	322.6	322.85	322.35	322.6	322.85	322.35	322.6	322.85	322.35	SAME
Layout Length	315.0	315.25	314.75	315.0	315.25	314.75	315.0	315.25	314.75	SAME
Layout Width	135.9	136.15	135.65	135.9	136.15	135.65	135.9	136.15	135.65	SAME
Layout Length on Top Stack frame	311.15	311.40	311.02	311.15	311.40	311.02	311.15	311.40	311.02	SAME
Layout Width on Top Stack frame	132.05	132.30	131.92	132.05	132.30	131.92	132.08	132.33	131.95	SAME
Layout Length on Bottom Stack frame	311.66	311.91	311.53	311.66	311.91	311.53	311.66	311.91	311.53	SAME
Layout Width on Bottom Stack frame	132.56	132.81	132.43	132.56	132.81	132.43	132.59	132.84	132.46	SAME
End Tab Length	92.10	92.35	91.85	92.10	92.35	91.85	92.1	92.35	91.85	SAME
Overall Height	7.62	7.75	7.49	7.62	7.75	7.49	7.62	7.75	7.49	SAME
Stack Height	1.27	1.40	1.14	1.27	1.40	1.14	1.27	1.40	1.14	SAME
Tray Matrix No.	10x26			8x21			10x26			CHANGE
Pitch M	10.35	10.48	10.22	10.55	10.68	10.42	10.35	10.48	10.22	CHANGE
Pitch M3	12.80	12.93	12.67	7.45	7.58	7.32	12.80	12.93	12.67	CHANGE
Pitch M1	10.00	10.13	9.87	10.00	10.13	9.87	10.00	10.13	9.87	CHANGE
Pitch M2	11.80	11.93	11.67	14.75	14.88	14.62	11.80	11.93	11.67	CHANGE
Cavity opening	12.75	12.88	12.62	11.03	11.16	10.90	14.18	14.31	14.05	CHANGE
Pedestal Design	SLOPE			PEDESTAL			SLOPE			CHANGE
Package seating height (Top)	1.50	1.63	1.37	1.40	1.48	1.32	1.50	1.60	1.40	CHANGE
Package seating height (Bottom)	1.62	1.75	1.49	1.70	1.78	1.62	1.50	1.60	1.40	CHANGE

Group 2 Device: 10x10mm BGA Tray

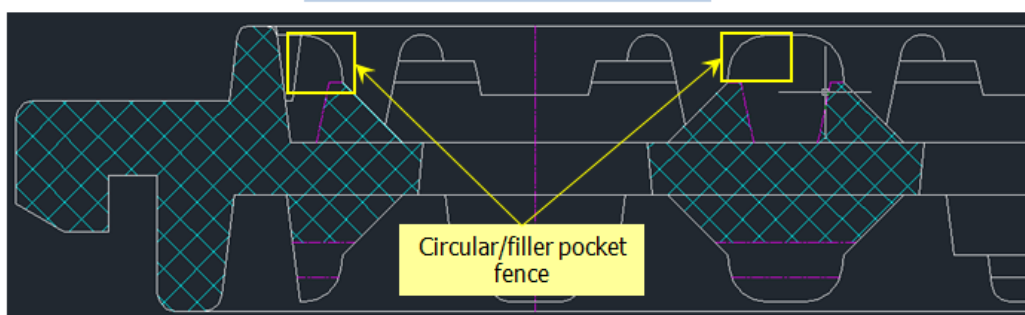
What	From	To
Stock #/Supplier	4211727-0001/KOSTAT	4222660-0001/PEAK
Matrix (Column x Rows)	8x21	8x23
Surface Resistivity, Ohms/Sq.	10^5 to 10^9	10^5 to 10^9
Raw Material	PES	MPPO
Tray Color	Black	Black
Temperature Rating	150 °C	150 °C

TRAY DESIGN CONSIDERATION and COMPARISON

Tray Pocket: Current



Tray Pocket: Proposed

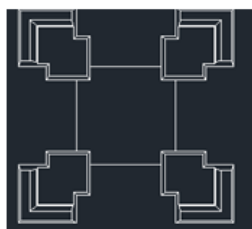


Tray Fence: Current

LIVE BUG

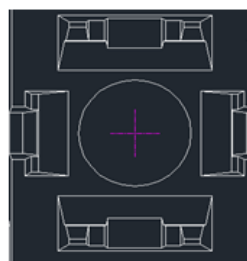


DEAD BUG

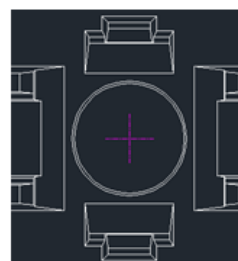


Tray Pocket: Proposed

LIVE BUG



DEAD BUG



Dimensional Comparison:

DESCRIPTION	4211727-0001 (KOSTAT)			PEAK TRAY			REMARKS
	DIM	Upper Limits	Lower Limits	DIM	Upper Limits	Lower Limits	
Overall Length	322.6	322.85	322.35	322.6	322.85	322.35	UNCHANGE
Layout Length	315.0	315.25	314.75	315.0	315.25	314.75	UNCHANGE
Layout Width	135.9	136.15	135.65	135.9	136.15	135.65	UNCHANGE
Layout Length on Top Stack frame	311.15	311.40	311.02	311.15	311.40	311.02	UNCHANGE
Layout Width on Top Stack frame	132.08	132.33	131.95	132.08	132.33	131.95	UNCHANGE
Layout Length on Bottom Stack frame	311.66	311.91	311.53	311.66	311.91	311.53	UNCHANGE
Layout Width on Bottom Stack frame	132.59	132.84	132.46	132.59	132.84	132.46	UNCHANGE
End Tab Length	92.10	92.35	91.85	92.1	92.35	91.85	UNCHANGE
Overall Height	7.62	7.75	7.49	7.62	7.75	7.49	UNCHANGE
Stack Height	2.00	2.13	1.87	2.00	2.13	1.87	UNCHANGE
Tray Matrix No.	8x21			8x23			CHANGE
Pitch M	11.95	12.08	11.82	19.65	19.78	19.52	CHANGE
Pitch M3	16.00	16.13	15.87	13.80	13.93	13.67	CHANGE
Pitch M1	11.00	11.13	10.87	10.10	10.23	9.97	CHANGE
Pitch M2	14.65	14.78	14.52	13.40	13.53	13.27	CHANGE
Cavity Size	10.20	10.28	10.12	10.30	10.38	10.22	CHANGE
Pedestal Design	SLOPE			SLOPE			UNCHANGE
Package seating height (Top)	1.59	1.72	1.46	1.50	1.60	1.40	CHANGE
Package seating height (Bottom)	1.09	1.22	0.96	1.50	1.60	1.40	CHANGE

Reason for Change:																																																			
Business Continuity																																																			
Anticipated impact on Fit, Form, Function, Quality or Reliability (positive / negative):																																																			
None																																																			
Anticipated impact on Material Declaration																																																			
<input checked="" type="checkbox"/>	No Impact to the Material Declaration	<input 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:																																																			
Not Applicable																																																			
Product Affected: Group 1 (9x9mm BGA)																																																			
<table> <tr><td>LM4F232H5BBFIG</td><td>TM4E1115E6ZRBE0</td><td>TM4C123GH6ZRB1</td><td>TM4E123GH6ZRB1</td></tr> <tr><td>LM4FS1EH5BBCIGR</td><td>TM4E1115E6ZRBE0R</td><td>TM4C123GH6ZRB17</td><td>TM4E123GH6ZRB17</td></tr> <tr><td>LX4F232H5BBFIGB0</td><td>TM4E1117E6ZRBE0</td><td>TM4C123GH6ZRB17R</td><td>TM4E123GH6ZRB17R</td></tr> <tr><td>LX4FS1GH5BBFIGB0</td><td>TM4E1117E6ZRBE0R</td><td>TM4C123GH6ZRB1R</td><td>TM4E123GH6ZRB1R</td></tr> <tr><td>PSNB5072C2ZNB</td><td>TM4E111BE6ZRBE0</td><td>TM4C123GH6ZRB7</td><td>TM4E1G31H6ZRB1</td></tr> <tr><td>SNB5072C1ZNBR</td><td>TM4E111BE6ZRBE0R</td><td>TM4C123GH6ZRB77</td><td>TM4E1G31H6ZRB17</td></tr> <tr><td>SNB5072C2ZNB</td><td>TM4E1231H6ZRB1</td><td>TM4C123GH6ZRB77R</td><td>TM4EA231H6ZRB17</td></tr> <tr><td>SNB5072C2ZNB7</td><td>TM4E1231H6ZRB17R</td><td>TM4C123GH6ZRB7R</td><td>TM4EA231H6ZRB17R</td></tr> <tr><td>TM4C123BH6ZRB1</td><td>TM4E1231H6ZRB1R</td><td>TM4E1111E6ZRBE0</td><td>UCD90240ZRB</td></tr> <tr><td>TM4C123BH6ZRB17</td><td>TM4E1237H6ZRB1</td><td>TM4E1111E6ZRBE0R</td><td>UCD90240ZRB7</td></tr> <tr><td>TM4C123BH6ZRB17R</td><td>TM4E1237H6ZRB17R</td><td>TM4E1113E6ZRBE0</td><td>UCD90240ZRB7R</td></tr> <tr><td>TM4C123BH6ZRB1R</td><td>TM4E1237H6ZRB1R</td><td>TM4E1113E6ZRBE0R</td><td></td></tr> </table>				LM4F232H5BBFIG	TM4E1115E6ZRBE0	TM4C123GH6ZRB1	TM4E123GH6ZRB1	LM4FS1EH5BBCIGR	TM4E1115E6ZRBE0R	TM4C123GH6ZRB17	TM4E123GH6ZRB17	LX4F232H5BBFIGB0	TM4E1117E6ZRBE0	TM4C123GH6ZRB17R	TM4E123GH6ZRB17R	LX4FS1GH5BBFIGB0	TM4E1117E6ZRBE0R	TM4C123GH6ZRB1R	TM4E123GH6ZRB1R	PSNB5072C2ZNB	TM4E111BE6ZRBE0	TM4C123GH6ZRB7	TM4E1G31H6ZRB1	SNB5072C1ZNBR	TM4E111BE6ZRBE0R	TM4C123GH6ZRB77	TM4E1G31H6ZRB17	SNB5072C2ZNB	TM4E1231H6ZRB1	TM4C123GH6ZRB77R	TM4EA231H6ZRB17	SNB5072C2ZNB7	TM4E1231H6ZRB17R	TM4C123GH6ZRB7R	TM4EA231H6ZRB17R	TM4C123BH6ZRB1	TM4E1231H6ZRB1R	TM4E1111E6ZRBE0	UCD90240ZRB	TM4C123BH6ZRB17	TM4E1237H6ZRB1	TM4E1111E6ZRBE0R	UCD90240ZRB7	TM4C123BH6ZRB17R	TM4E1237H6ZRB17R	TM4E1113E6ZRBE0	UCD90240ZRB7R	TM4C123BH6ZRB1R	TM4E1237H6ZRB1R	TM4E1113E6ZRBE0R	
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PSNB5072C2ZNB	TM4E111BE6ZRBE0	TM4C123GH6ZRB7	TM4E1G31H6ZRB1																																																
SNB5072C1ZNBR	TM4E111BE6ZRBE0R	TM4C123GH6ZRB77	TM4E1G31H6ZRB17																																																
SNB5072C2ZNB	TM4E1231H6ZRB1	TM4C123GH6ZRB77R	TM4EA231H6ZRB17																																																
SNB5072C2ZNB7	TM4E1231H6ZRB17R	TM4C123GH6ZRB7R	TM4EA231H6ZRB17R																																																
TM4C123BH6ZRB1	TM4E1231H6ZRB1R	TM4E1111E6ZRBE0	UCD90240ZRB																																																
TM4C123BH6ZRB17	TM4E1237H6ZRB1	TM4E1111E6ZRBE0R	UCD90240ZRB7																																																
TM4C123BH6ZRB17R	TM4E1237H6ZRB17R	TM4E1113E6ZRBE0	UCD90240ZRB7R																																																
TM4C123BH6ZRB1R	TM4E1237H6ZRB1R	TM4E1113E6ZRBE0R																																																	

Product Affected: Group 2 (10x10mm BGA)

ADS4449IZCR	TMS320C5504AZCHA12	TMS320C5517AZCH22	TMS320F2809GGMS
ADS4449IZCRR	TMS320C5505AZCH10	TMS320C5517AZCHA20	TMS320F2809ZGMA
ADS58H40IZCR	TMS320C5505AZCH12	TMS320C5517AZCHA22	TMS320F2809ZGMS
ADS58H40IZCRR	TMS320C5505AZCH15	TMS320C5SGCHA	TMS320VC5504XZCH
ADS58H43IZCR	TMS320C5505AZCHA10	TMS320C5SZCHA	TMS320VC5504YZCH
ADS58H43IZCRR	TMS320C5505AZCHA12	TMS320F28015ZGMA	TMS320VC5504ZCH
SM320VC5510AZPHA2	TMS320C5505AZCHR10	TMS320F2801ZGMA	TMS320VC5505MZCH
SN95031B3ZCS	TMS320C5514AZCH10	TMS320F2802ZGMA	TMS320VC5505ZCH
SN95031B3ZCSR	TMS320C5514AZCH12	TMS320F2802ZGMS	TMS320VC5510AGPHA2
SN95031B4ZCS	TMS320C5514AZCHA12	TMS320F2806ZGMA	TMS32C5517AZCHA20R
SN95031B4ZCSR	TMS320C5515ASGCHA	TMS320F2806ZGMS	TPS65920A2ZCH
SNBC027B4ZCS	TMS320C5515ASZCHA	TMS320F2806ZGMSR	TPS65920A2ZCHR
SNBC027B4ZCSR	TMS320C5515AZCH10	TMS320F2808GGMA	TPS65930A2ZCH
TMS320C5504AZCH10	TMS320C5515AZCH12	TMS320F2808GGMS	TPS65930A2ZCHR
TMS320C5504AZCH12	TMS320C5515AZCHA10	TMS320F2808ZGMA	
TMS320C5504AZCH15	TMS320C5515AZCHA12	TMS320F2808ZGMS	
TMS320C5504AZCHA10	TMS320C5517AZCH20	TMS320F2809GGMA	

Group 1 Device Qualification Data



Revision: A

EQ# :

A/T Site:

BGA JEDEC Tray Qualification Summary

Reference (QSS 003-008, 009-006, 014-102)

Supplier:	PEAK	
Vendor Part No:	TXBG0909 1.0 1026 6	
TI Part No:	4222683-0001	(If available)
Weight/tray (g):	153.5 Grams	
Material:	MPPO	
Package Description	BGA 9x9	(yes/no)
Package Designator:	ZRB	
Result:	PASS	
Date:	24-May-16	

I. First Article Inspection Test	PASS	(Pass/Fail)
II. Dimensional Test	PASS	
III. Manufacturability Test	PASS	
IV. Bake & Surface Resistivity Test	PASS	
V. Fit Analysis	PASS	
VI. Drop Test	PASS	
VII. Strap test	PASS	

Group 2 Device Qualification Data



Revision: A

EQ# :

A/T Site:

BGA JEDEC Tray Qualification Summary

Reference (QSS 003-008, 009-006, 014-102)

Supplier:	PEAK	
Vendor Part No:	TXBG1010 1.2 0823 6	
TI Part No:	4222660-0001	(If available)
Weight/tray (g):	145.5 Grams	
Material:	MPPO	
Package Description	BGA 10x10	(yes/no)
Package Designator:	AAP	
Result:	PASS	
Date:	16-May-16	

I. First Article Inspection Test	PASS	(Pass/Fail)
II. Dimensional Test	PASS	
III. Manufacturability Test	PASS	
IV. Bake & Surface Resistivity Test	PASS	
V. Fit Analysis	PASS	
VI. Drop Test	PASS	
VII. Strap test	PASS	

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