

Integrated Device Technology, Inc.  
6024 Silver Creek Valley Road, San Jose, CA - 95138

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1312-05**                      DATE **23-Dec-2013**

Product Affected: 19.0mm x 19.0mm FCBGA-324  
Refer to Attachment II for the affected part numbers

MEANS OF DISTINGUISHING CHANGED DEVICES:

- Product Mark  
 Back Mark              Lot# will have a "AT" prefix to denote alternate site, Amkor Taiwan.  
 Date Code  
 Other

Date Effective: **23-Mar-2014**

Contact: IDT PCN DESK

Attachment:  Yes               No

E-mail: [pcndesk@idt.com](mailto:pcndesk@idt.com)

Samples: Please contact your local sales representative for sample request & availability.

### DESCRIPTION AND PURPOSE OF CHANGE:

- Die Technology  
 Wafer Fabrication Process  
 Assembly Process  
 Equipment  
 Material  
 Testing  
 Manufacturing Site  
 Data Sheet  
 Other

This notification is to advise our customers that IDT is adding Amkor, Taiwan as an alternate assembly facility for the selective devices of the FCBGA package types. The die bump material will be changed from TSMC High Pb to ATK Eutectic bump.

There is no change to the moisture performance.

Attachment I details the qualification data for this change and Attachment II shows the affected list of part numbers.

### RELIABILITY/QUALIFICATION SUMMARY:

Refer to qualification data shown in attachment I.

### CUSTOMER ACKNOWLEDGMENT OF RECEIPT:

IDT records indicate that you require written notification of this change. Please use the acknowledgement below or E-Mail to grant approval or request additional information. If IDT does not receive acknowledgement within 30 days of this notice it will be assumed that this change is acceptable.

IDT reserves the right to ship either version manufactured after the process change effective date until the inventory on the earlier version has been depleted.

Customer: \_\_\_\_\_

*Approval for shipments prior to effective date.*

Name/Date: \_\_\_\_\_

E-Mail Address: \_\_\_\_\_

Title: \_\_\_\_\_

Phone# /Fax# : \_\_\_\_\_

CUSTOMER COMMENTS: \_\_\_\_\_

### IDT ACKNOWLEDGMENT OF RECEIPT:

RECD. BY: \_\_\_\_\_

DATE: \_\_\_\_\_

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN # : A1312-05

**PCN Type:** Manufacturing Site - Alternate Assembly Location

**Data Sheet Change:** None

No change in moisture sensitivity level (MSL)

#### Detail Of Change:

This notification is to advise our customers that IDT is adding Amkor, Taiwan as an alternate assembly facility for the selective devices of the FCBGA package types. The die bump material will be changed from TSMC High Pb to ATK Eutectic bump.

The material sets used at Amkor, Taiwan are qualified IDT materials.

There is no change to the moisture performance of these packages using the assembly material sets as listed in the below table.

Table 1: Assembly Material Sets for the Existing Assembly & Alternate Assembly

Material Set / Assembly	Existing	Add
	Amkor, Philippines	Amkor, Taiwan
Heat spreader thermo grease	DCL-5	SHA-1
Adhesive	DCL-5	DCL-4
Die bump	95Pb5Sn (High Pb)	63Sn37Pb
Underfill	NAU-8	NAU-27
Substrate	E679FGR / PHP-900 IR15S-3 / ABF-GX13 / AUS703	E679FGR / PHP-900 IR15S-3 / ABF-GX13 / AUS703
Solder balls	Sn96.5/Ag3.0/Cu0.5	Sn96.5/Ag3.0/Cu0.5

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT I - PCN # : A1312-05

#### Qualification Test Plans and Results :

##### Qual Plan & Results:

The qualification was performed in accordance with JEDEC47 recommended tests

##### Qual Vehicle:

19.0mm x 19.0mm FCBGA-324 (3 lots)

Test Description	Test Method	Test Results (SS / Rej)		
		Lot 1	Lot 2	Lot 3
* HAST - unbiased (130 °C/85% RH, 96 Hrs)	JESD22-A118	30/0	30/0	30/0
* Temperature Humidity Biased (85 °C/85% RH, 1000 Hrs)	JESD22-A101	25/0	25/0	25/0
* Temperature Cycle / Condition B (-55 °C to +125 °C, 700 Cyc)	JESD22-A104	30/0	30/0	30/0
High Temp. Storage Test (150 °C, 1000 Hrs)	JESD22-A103	30/0	30/0	30/0
Solder Ball Shear Test (1000 Hrs)	JESD22-B117	5/0	5/0	5/0
External Visual Inspection	JESD22-B101	25/0	25/0	25/0
X-ray Examination	IDT Spec MAC-3012	45/0	45/0	45/0

Note:

\* Test requires moisture pre-conditioning sequence per JESD22-A113 prior to stress test

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**PRODUCT/PROCESS CHANGE NOTICE (PCN)**

**ATTACHMENT II - PCN # : A1312-05**

**Affected Part Numbers**

<b>Part Number</b>	<b>Part Number</b>	<b>Part Number</b>
80KSW0002AR	80KSW0003AR	80KSW0004AR
80KSW0002ARI	80KSW0003ARI	80KSW0004ARI