



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

## PRODUCT/PROCESS CHANGE NOTICE (PCN)

|                                                                                      |                          |                                                                                                                                                                                                                                                                          |
|--------------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PCN #: <b>A1512-02</b>                                                               | DATE: <b>29-Jan-2016</b> | MEANS OF DISTINGUISHING CHANGED DEVICES:<br><br><input type="checkbox"/> Product Mark<br><input checked="" type="checkbox"/> Back Mark<br><input type="checkbox"/> Date Code<br><input type="checkbox"/> Other<br><br>Lot # will have:<br>"AS" prefix for UTAC, Thailand |
| Product Affected: VFQFPN-132<br>Refer to Attachment II for the affected part numbers |                          |                                                                                                                                                                                                                                                                          |
| Date Effective: <b>29-Apr-2016</b>                                                   |                          |                                                                                                                                                                                                                                                                          |

|                                                              |                                                                                 |
|--------------------------------------------------------------|---------------------------------------------------------------------------------|
| Contact: IDT PCN DESK                                        | Attachment: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No |
| E-mail: <a href="mailto:pcndesk@idt.com">pcndesk@idt.com</a> | Samples: Please contact your local sales representative for sample request.     |

### DESCRIPTION AND PURPOSE OF CHANGE:

|                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> Die Technology<br><input type="checkbox"/> Wafer Fabrication Process<br><input type="checkbox"/> Assembly Process<br><input type="checkbox"/> Equipment<br><input type="checkbox"/> Material<br><input type="checkbox"/> Testing<br><input checked="" type="checkbox"/> Manufacturing Site<br><input type="checkbox"/> Data Sheet<br><input type="checkbox"/> Other | This notification is to advise our customers that IDT is transferring the affected products assembled at Amkor, Korea , K1 (ATK) to Amkor, China (ATC) as ATK will shutdown K1.<br><br>There is no change to the moisture performance.<br><br>Attachment I details the qualification results and<br>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: _____          | <input type="checkbox"/> <b>Approval for shipments prior to effective date.</b> |
| Name/Date: _____         | E-Mail Address: _____                                                           |
| Title: _____             | Phone# /Fax# : _____                                                            |
| CUSTOMER COMMENTS: _____ |                                                                                 |

### IDT ACKNOWLEDGMENT OF RECEIPT:

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



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### ATTACHMENT I - PCN # : A1512-02

**PCN Type:** Manufacturing Site - Transfer 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 transferring the affected products assembled at Amkor, Korea, K1 (ATK) to Amkor, China (ATC) as ATK will shutdown K1.

The material set details of the current and new assembly location is as shown in Table 1. There is no change from the existing qualified lead frame material, lead finish, die attach, mold compound and wire for the new assembly location.

There is no change to the moisture performance.

Table 1: Assembly Material Sets for The Existing and New Assembly Location

|               | Existing Assembly<br>(ATK, Amkor Korea) | New Assembly<br>(ATC, Amkor China) |
|---------------|-----------------------------------------|------------------------------------|
| Die Attach    | CRM1085A                                | CRM1085A                           |
| Wire          | Au wire                                 | Au wire                            |
| Mold Compound | G700                                    | G700                               |



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### ATTACHMENT I - PCN # : A1512-02

#### Qualification Information and Qualification Data:

**Affected Packages:** VFQFPN-132

**Assembly Material:** Shown on page 2 of this attachment.

**Qual Plan & Results:** Tests are in accordance with JEDEC47 recommended tests.

**Qualification Vehicle:** VFQFPN-132

| Test Description                                      | Test Method                 | Test Results (Rej / SS) |       |       |
|-------------------------------------------------------|-----------------------------|-------------------------|-------|-------|
|                                                       |                             | Lot 1                   | Lot 2 | Lot 3 |
| * Temperature Cycling<br>(-55°C to 125°C, 700 cycles) | JESD22-A104                 | 0/25                    | 0/25  | 0/25  |
| Lead Integrity                                        | JESD22-B105                 | 0/3                     | 0/3   | 0/3   |
| * HAST - unbiased<br>(130 °C/85% RH, 96 Hrs)          | JESD22-A118                 | 0/25                    | 0/25  | 0/25  |
| High Temperature Storage Bake<br>(150°C, 1000 Hrs)    | JESD22-A103                 | 0/25                    | 0/25  | 0/25  |
| Bond Shear Test                                       | JESD22-B116                 | 0/5                     | 0/5   | 0/5   |
| Bond Pull Strength Test                               | Mils-Std-883,<br>M2011      | 0/5                     | 0/5   | 0/5   |
| Solderability Test                                    | JESD22-B102                 | 0/5                     | 0/5   | 0/5   |
| Moisture Sensitivity Level, MSL                       | J-STD-20 /<br>MSL 3, 260 °C | 0/25                    | 0/25  | -     |

\* Tests were subjected to Preconditioning per JESD22-A113 prior to stress test



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## PRODUCT/PROCESS CHANGE NOTICE (PCN)

### ATTACHMENT II - PCN # : A1512-02

#### Affected Part Numbers

| Part Number      | Part Number      | Part Number       | Part Number       |
|------------------|------------------|-------------------|-------------------|
| 89HMPEB383ZANQG  | 89HPES3T3ZBNQG8  | 89HMPEB383ZANQG8  | 89HMPEB383ZBNQGI8 |
| 89HPEB383ZBNQG   | 89HPES3T3ZBNQGI  | 89HMPEB383ZANQGI  | 89HPEB383ZANQG    |
| 89HPEB383ZBNQG8  | 89HPES3T3ZBNQGI8 | 89HMPEB383ZANQGI8 | 89HPEB383ZANQG8   |
| 89HPEB383ZBNQGI  | 89HPES4T4ZBNQG   | 89HMPEB383ZBNQG   | 89HPES4T4ZBNQG8   |
| 89HPEB383ZBNQGI8 | 89HPEB383ZANQGI8 | 89HMPEB383ZBNQG8  |                   |
| 89HPES3T3ZBNQG   | 89HPEB383ZANQGI  | 89HMPEB383ZBNQGI  |                   |