



Integrated Device Technology, Inc.
6024 Silver Creek Valley Road
San Jose, CA 96138

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A0807-01** DATE: **July 25, 2008**

Product Affected: 10.0mm x 10.0mm VFQFP-N-72
(Refer to Attachment 2 for affected part#)

MEANS OF DISTINGUISHING CHANGED DEVICES:

- ☐ Product Mark
☒ Back Mark Lot # will have a "Y" suffix
☐ Date Code
☐ Other

Date Effective: **October 25, 2008**

Contact: Bimla Paul
Title: Product Quality Assurance
Phone #: (408) 574-6419
Fax #: (408) 284-8362
E-mail: Bimla.Paul@idt.com

Attachment: ☒ Yes ☐ No

Samples: Contact your local IDT sales representative for sample requests.

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 has successfully completed the qualification of Copper bond wire and plans to ship the selective products of 10.0mm x 10.0mm VFQFP-N-72 with copper bond wire process assembled in Carsem, Malaysia and Unisem, Indonesia in October 2008. There is no change to the moisture performance of these packages.

Please refer to the following attachments for additional information.

Attachment 1 outlines the qualification data.
Attachment 2 shows the affected part numbers.

RELIABILITY/QUALIFICATION SUMMARY:

There is no expected change to the product quality or reliability performance.

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: _____



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ATTACHMENT 1 - PCN # : A0807-01

PCN Type: Assembly Material Change - Gold wire to Copper wire

Data Sheet Change: None

Detail Of Change:

This notification is to advise our customers that IDT has successfully completed the qualification of Copper bond wire and plans to ship the selective products of 10.0mm x 10.0mm VFQFP-N-72 with copper bond wire process assembled in Carsem, Malaysia and Unisem, Indonesia in October 2008. There is no change to the moisture performance of these packages.

Please refer to the following attachments for additional information.

Attachment 1 outlines the qualification data.

Attachment 2 shows the affected part numbers.

Copper bond wire process is presently used by selective semiconductor suppliers due to the following key advantages:

- A. Better electrical performance- higher current handling capability - 18% improvement in resistance for 1 mil bond wire.
- B. Better high temperature bake performance. Minimal intermetallic compound build up.
- C. Higher Ball shear and wire pull test result- smaller bond pad real estate is now possible.
- D. Stiffer Wire- minimize wire swaying , longer wires than gold is now possible.

IDT has already successfully qualified Copper wire bond process and has shipped million of units assembled at Carsem, Malaysia for VFQFP-N-72 (PCN# A0709-02R1), and Unisem, Indonesia for VFQFP-N-64, 72, 6.1 mm TSSOP 56, 64 (PCN# A0802-01R1).

Customers may expect to receive shipments with Cu wire process no sooner than 90 days from the date of this notification, July 25, 2008. Product assembled with Au and Cu wire will be shipped during the transition period or until the Au wire inventory has been depleted. Please note that product assembled with Au and Cu wire will not be mixed in one tray stack, or tape and reel.

We request you to acknowledge receipt of this notification within 30 days of the date of this PCN notification. If you require samples to conduct and evaluation, please make your sample request within 30 days as samples are not built ahead of the change for all device options. You may contact your local sales representative to acknowledge this PCN and request samples.



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ATTACHMENT 1 - PCN # : A0807-01

	Samples Availability	Production Shipments
Package Family :	VFQFP-N-72	Now
Assembly Material :	The material set used in assembly is in compliance with ROHS 6 (green products) and ROHS 5 (standard products) requirement.	
Sample Availability :	Samples are not built ahead of the change for all device types and may not be available for all affected device types. Please contact your local IDT sales representative for your sample request and availability.	

Qualification Test Result :

1. Bond Wire Qual Results

The following tests were successfully completed.

Test Description	Test Method	Test Results (SS / Rej)	Test Results (SS / Rej)	Test Results (SS / Rej)
* High Accelerated Stress Test (Biased, 130 °C/85% RH, 100 Hrs)	JESD22-A110-B	45/0	45/0	45/0
* Temperature Cycle / Condition B (-55 °C to +125 °C, 1000 Cyc)	JESD22-A104-B	45/0	45/0	¹ 44/0
High Temp. Storage (150 °C, 1000 Hrs)	JESD22-A103-B	77/0	77/0	77/0
Ball Shear Test	JESD22-B116	5/0	5/0	5/0
Bond Pull Test	IDT Spec, MAC-3010	5/0	5/0	5/0
X-ray Examination	IDT Spec, MAC-3012	45/0	45/0	45/0

Note:

* Test requires moisture pre-conditioning sequence per JESD22-A113C and will use the existing moisture sensitivity level that has been qualified for this material set.

¹ 1 unit - Functional die level failure, not related to Cu Bond process.

2. Product Electrical Characterization

Product electrical characterization has been successfully completed on representative product families and copper wire performance was comparable to gold wire performance.



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ATTACHMENT 2 - PCN # : A0807-01

Affected Part Number

Part Number	Part Number	Part Number	Part Number
ICS954305DKLFT-TRQ1	ICS9LPR390BKLF	ICS9LPRS353ENG1KLFT	ICS9LPRS476HKLFT
ICS954305EKLF	ICS9LPR390CKLF	ICS9LPRS387BKLF	ICS9LPRS488CKLF
ICS954305EKLFT	ICS9LPR390CKLFT	ICS9LPRS387BKLF	ICS9LPRS488CKLFT
ICS9LPR333AKLF	ICS9LPRS110AKLF	ICS9LPRS390BKLF	ICS9LPRS910BKLF
ICS9LPR333AKLFT	ICS9LPRS110AKLFT	ICS9LPRS390BKLF	ICS9LPRS910BKLF
ICS9LPR333CKLF	ICS9LPRS113AKLF	ICS9LPRS390CKLF	ICS9LPRS910CKLF
ICS9LPR333CKLFT	ICS9LPRS113AKLFT	ICS9LPRS390CKLFT	ICS9LPRS910CKLFT
ICS9LPR333EKLF	ICS9LPRS114BKLF	ICS9LPRS397CKLF	ICS9LPRS128CKLF
ICS9LPR333EKLFT	ICS9LPRS114BKLF	ICS9LPRS397CKLFT	ICS9LPRS128CKLFT
ICS9LPR333HKLF	ICS9LPRS138AKLF	ICS9LPRS397DKLF	ICS9LPRS130AKLF
ICS9LPR333HKLFT	ICS9LPRS138AKLFT	ICS9LPRS397DKLFT	ICS9LPRS130AKLFT
ICS9LPR335BKLF	ICS9LPRS138BKLF	ICS9LPRS474AKLF	ICS9LPRS503J45KLFT-TRQ
ICS9LPR335BKLF	ICS9LPRS138BKLF	ICS9LPRS474AKLFT	ICS9LPRS503J45KLFT-TRQ
ICS9LPR336AKLF	ICS9LPRS139AKLF	ICS9LPRS474DKLF	ICS9LPRS503J45KLFT-TRQ1
ICS9LPR336AKLFT	ICS9LPRS139AKLFT	ICS9LPRS474DKLFT	IDTCV153NLG
ICS9LPR390AKLF	ICS9LPRS333CKLF	ICS9LPRS476EKLF	IDTCV153NLG8
ICS9LPR390AKLFT	ICS9LPRS333CKLFT	ICS9LPRS476EKLF	IDTCV155NLG
ICS9LPR390BKLF	ICS9LPRS353ENG1KLF	ICS9LPRS476HKLFT	IDTCV155NLG8