



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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A0903-01** DATE: **May 15, 2009**

Product Affected: 4.4 mm TSSOP 16, 20, 24
(Standard & Green)

MEANS OF DISTINGUISHING CHANGED DEVICES:

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

Date Effective: **August 15, 2009**

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 on 4.4 mm TSSOP 16, 20 and 24 (standard & green) at ATP, Philippines ; OSET, Taiwan and UTL, Thailand and plans to ship products with copper bond wire process in August, 2009.

There is no change in the moisture sensitivity performance.

Please refer to following attachments for additional information.

Attachment 1 outlines the qualification plans and results.

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 # : A0903-01

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 on 4.4 mm TSSOP 16, 20 and 24 at ATP, Philippines ; OSET, Taiwan and UTL, Thailand and plans to ship products with copper bond wire process in August, 2009.

Copper bond 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 intermettalic 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.

Customers may expect to receive shipments with Cu wire process no sooner than 90 days from the date of this notification, May 15, 2009. 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 evaluations, 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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Assembly Material : There is no change in the mold compound and die attach materials. The material sets used in assembly is in compliance with RoHS 5 (standard products) requirement. There is no change in the moisture sensitivity performance.

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 Plans and Results :

1. Copper Bond Wire Qual Results

- Qual Vehicle: i) ATP, TSSOP 64
ii) OSET, TSSOP 64
iii) UTL, TSSOP 28

Test Description	Test Method	Test Results (SS / Rej)		
		ATP TSSOP 64	OSET TSSOP 64	UTL TSSOP 28
* High Accelerated Stress Test (Biased, 130 °C/85% RH, 100 Hrs)	JESD22-A110	45/0	¹ 44/0	45/0
* Temperature Cycle / Condition B (-55 °C to +125 °C, 1000 Cyc)	JESD22-A104	45/0	45/0	45/0
High Temp. Storage Test (150 °C, 1000 Hrs)	JESD22-A103	77/0	77/0	77/0
Ball Shear Test	JESD22-B116	5/0	5/0	5/0
Wire Bond Pull Test	Mil-Std-883 M2001	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 One unit mechanical reject due to damage leads and not able to test on ATE

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 # : A0903-01

Affected Part Number

Part Number	Part Number	Part Number	Part Number
2308-1HPG	2309B-1HPG	557G-03LFT-PAC	581G-02IT
2308-1HPG8	2309B-1HPG8	557G-03T	581G-02LF
2308-1HPGG	2309B-1HPGG	557G-05A	581G-02LFT
2308-1HPGG8	2309B-1HPGG8	557G-05ALF	581G-02LN
2308-1HPGGI	2309B-1HPGGI	557G-05ALFT	581G-02LNT
2308-1HPGGI8	2309B-1HPGGI8	557G-05AT	581G-02T
2308-1HPGI	2309B-1HPGI	557G-06	5V2305PGGI
2308-1HPGI8	2309B-1HPGI8	557G-06LF	5V2305PGGI8
2308-5HPG	2309NZ-1HPG	557G-06LFT	5V2305PGI
2308-5HPG8	2309NZ-1HPG8	557G-06T	5V2305PGI8
2308-5HPGG	2309NZ-1HPGG	557G-08	5V2310PGGI
2308-5HPGG8	2309NZ-1HPGG8	557G-08LF	5V2310PGGI8
2308-5HPGGI	2309NZ-1HPGGI	557G-08LFT	5V2310PGI
2308-5HPGGI8	2309NZ-1HPGGI8	557G-08T	5V2310PGI8
2308-5HPGI	2309NZ-1HPGI	557GI-03	601G-01
2308-5HPGI8	2309NZ-1HPGI8	557GI-03LF	601G-01I
2308A-1HPG	307G-03	557GI-03LFT	601G-01ILF
2308A-1HPG8	307G-03LF	557GI-03T	601G-01ILFT
2308A-1HPGG	307G-03LFT	557GI-05ALF	601G-01IT
2308A-1HPGG8	307G-03T	557GI-05ALF-PAC	601G-01LF
2308A-1HPGGI	307GI-03LF	557GI-05ALFT	601G-01LFT
2308A-1HPGGI8	307GI-03LFT	557GI-05ALFT-PAC	601G-01T
2308A-1HPGI	487G-25	557GI-06	650GI-41
2308A-1HPGI8	487G-25LF	557GI-06LF	650GI-41LF
2308A-5HPGG	487G-25LFT	557GI-06LFT	650GI-41LFT
2308A-5HPGG8	487G-25T	557GI-06T	650GI-41T
2308B-5HPG	548G-05	557GI-08LF	650GI-44
2308B-5HPG8	548G-05A	557GI-08LFT	650GI-44LF
2309-1HPG	548G-05AT	558G-01	650GI-44LFT
2309-1HPG8	548G-05I	558G-01LF	650GI-44T
2309-1HPGG	548G-05IT	558G-01LFT	660GI
2309-1HPGG8	548G-05LF	558G-01T	660GILF
2309-1HPGGI	548G-05LFT	581G-01	660GILFT
2309-1HPGGI8	548G-05T	581G-01I	660GIT
2309-1HPGI	548GI-05A	581G-01ILF	661GI
2309-1HPGI8	548GI-05AT	581G-01ILFT	661GILF
2309A-1HPG	552G-02I	581G-01IT	661GILFT
2309A-1HPG8	552G-02ILN	581G-01LF	661GIT
2309A-1HPGG	552G-02ILNT	581G-01LFT	664G-01
2309A-1HPGG8	552G-02IT	581G-01T	664G-01LF
2309A-1HPGGI	557G-03	581G-02	664G-01LFT
2309A-1HPGGI8	557G-03LF	581G-02I	664G-01T
2309A-1HPGI	557G-03LF-PAC	581G-02ILF	664G-02
2309A-1HPGI8	557G-03LFT	581G-02ILFT	664G-02LF



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ATTACHMENT 2 - PCN # : A0903-01

Affected Part Number

Part Number	Part Number	Part Number	Part Number
664G-02LFT	664GI-01LFT	MK2308G-1HILF	MK3724GILF
664G-02T	MK1581-01GI	MK2308G-1HILFTR	MK3724GILFTR
664G-03	MK1581-01GILF	MK2308G-1HITR	MK3724GLF
664G-03LF	MK1581-01GILFTR	MK2308G-1HLF	MK3724GLFTR
664G-03LFT	MK1581-01GITR	MK2308G-1HLFTR	MK3724GTR
664G-03T	MK2308G-1H	MK2308G-1HTR	
664GI-01LF	MK2308G-1HI	MK3724G	