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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1007-07** DATE: **August 25, 2010**

Product Affected: 82V2048 and 82V2058 (built in 20 mm x 20 mm TQFP-144)

Date Effective: **November 25, 2010**

MEANS OF DISTINGUISHING CHANGED DEVICES:

- ☐ Product Mark
- ■ Back Mark
- ☐ Date Code
- ☐ Other

Assembly lot marked on the device provides traceability to the material used

Contact: Mary Vesey
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Attachment: ■ Yes ☐ No

Samples: Please contact Product Line Marketing 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 plans to convert 82V2048 and 82V2058 built in 20 mm x 20 mm TQFP-144 package to a smaller Gold bonding wire diameter. The new Gold bonding wire diameter is 0.8 mil compared to current 1.3 mil. This change is applicable to all the existing qualified assembly sub-contractors of the affected part numbers.

Please refer to the following attachments for additional information.
Attachment 1 outlines the qualification 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 90 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 # : A1007-07

PCN Type: Assembly Material Change - Gold Bonding Wire Diameter

Data Sheet Change: None

Details Of Change: This notification is to advise our customers that IDT plans to convert 82V2048 and 82V2058 built in 20 mm x 20 mm TQFP-144 package to a smaller Gold bonding wire diameter. The new Gold bonding wire diameter is 0.8 mil compared to current 1.3 mil. This change is applicable to all the existing qualified assembly sub-contractors of the affected part numbers.

There is no change to the moisture performance or RoHS compliance.

Description	Current	New
Gold Bonding Wire Diameter	1.3 mil	0.8 mil

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0.8 and 1.0 mil wire for 82V2058 (DA144) Bench Test Summary

Objective:

- To verify chip function for bonding wire standardization to 0.8 mil wire.

Test units: SLU 82V2058

- 1.3mils : 3pcs
- 1.0mils : 3pcs
- 0.8mils : 3pcs

Test environment:

- -40deg; 85deg;

Test results:

3.3v/3.3v supply	1.3mils			1.0mils			0.8mils			Remark
	unit5	unit6	unit8	unit3	unit6	unit10	unit2	unit5	unit7	
Template at 85deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	amplitude 3.0v～3.15v for all channel and shape is ok
sensitivity at -40deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	12.8dB～13.9dB for all channel

3.0v/3.0v supply	1.3mils			1.0mils			0.8mils			Remark
	unit5	unit6	unit8	unit3	unit6	unit10	unit2	unit5	unit7	
Template at 85deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	amplitude 3.0v～3.15v for all channel and shape is ok
sensitivity at -40deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	12.8dB～13.9dB for all channel

3.6v/3.6v supply	1.3mils			1.0mils			0.8mils			Remark
	unit5	unit6	unit8	unit3	unit6	unit10	unit2	unit5	unit7	
Template at 85deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	amplitude 3.0v～3.15v for all channel and shape is ok
sensitivity at -40deg	pass	pass	pass	pass	pass	pass	pass	pass	pass	12.8dB～13.9dB for all channel

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Package Qualification Test Report

TQFP-144, 20 mm x 20 mm

General Information

Qualification Type	**Package**	Package Family	**TQFP**
Package Type	**TQFP-144**	Packages Covered	**TQFP-144 (Green)**
Report Date	February 25, 2009		

Source Report: P08-05-03R1 & Package Monitor Report File: Y:\Package Qual Report\TQFP\

Package Dimension

Package	Body Size	Lead Pitch
TQFP-144	20 x 20 x 1.4 mm	0.5 mm

Bill of Materials

Package	Lead Frame	Die Attach	Wire Bond	Mold Compound	Plating Finish
TQFP-144	Copper	Ablebond 3230	1.3/0.8 mil Au	G700LY	100% Sn, Matte

Test Description and Qualification Data

		Sample Size/Reject	
		TQFP-144	
Test	**Reference Spec / Conditions**	**1.3 mil**	**0.8 mil**
Ball Shear Test	JESD22-B116	5/0	5/0
Wire Bond Pull Test	Mil-Std-883 M2001	5/0	5/0
X-Ray Examination	IDT Spec MAC-3012	45/0	45/0
UHAST *	JESD22-A110 (130°C/85%RH, 100hrs, Unbias)	45/0	45/0
High Temperature Storage Test *	JESD22-A103 (150°C, 1000 hrs)	77/0	77/0
Temperature Cycling Test *	JESD22-A104 (–55°C to 125°C, 1000cyc)	45/0	44/0 **

* Subjected to preconditioning sequence according to JESD22-A113 (MSL Level 3) prior to stress test.

** 1 unit failed resistive short (die level) during preconditioning. No anomaly was observed on the ball bond wire of the failing pin. The die level failure was not related to the 0.8 mil wire.

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ATTACHMENT 2 - PCN #: A1007-07

Affected Part Number

IDT Part Number	IDT Part Number	IDT Part Number	IDT Part Number
82V2048DA	82V2048LDAG	82V2058DA	82V2058LDAG
82V2048DAG	82V2048SDA	82V2058DAG	82V2058XDA
82V2048LDA	82V2048SDAG	82V2058LDA	82V2058XDAG