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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **A1108-03** DATE: 9/23/2011

Product Affected: Refer to the attached list of products.

Date Effective: 12/23/2011

MEANS OF DISTINGUISHING CHANGED DEVICES:
- ☐ Product Mark
- ☐ Back Mark
- ■ Date Code — Cut-off Datecode ≥ 1147.
- ☐ Other

Contact: Vicrant Chaudhry
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Attachment: ■ Yes ☐ No

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: Die Revision

This notification is to advise our customers that IDT has made a die change for the affected parts listed on this PCN. The change will enhance electrical performance, decrease power consumption and increase device's robustness. The die attach material will also be changed to JM7000.

Attachment 1 & 2 - Outlines the die / spec change & material qualification data.
Attachment 3 - List of affected products

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 # : A1108-03

PCN Type: New Die and Material Change

Data Sheet Change: Yes

Detail Of Change:

This notification is to advise our customers that IDT has made a die change from die option 097 to die option 207 for the affected parts listed on this PCN. The change will enhance electrical performance, decrease power consumption and increase device's robustness.

The new die option cut-off datecode is 1147. This die option was fully verified and characterized with functionality and evaluated against datasheet parameters. Refer below for other spec parameters that were updated due to this change. There are no changes to the orderable part#.

	FROM	TO
Page 1 Features: Typical RMS phase jitter @ 669.3266MHz (12KHz - 20MHz)	0.384ps	0.359ps
Table 2A: Typical Input Capacitance (FSEL[1:0],SDATA,SCLK), Cin	4pF	5.5pF
Absolute Maximum Ratings: Supply Voltage, Vcc	4.5V	3.63V
Table 5A: Max Power Supply Current, Iee	200mA	150mA
Table 5B: Max Power Supply Current, Iee	190mA	145mA
Table 6B: Cycle to Cycle Jitter, Vcc 3.3V±5%	16 ps	15 ps
Cycle to Cycle Jitter, Vcc 2.5V±5%	26 ps	15 ps
Typical RMS Phase Jitter	0.384 ps	0.359 ps
Typical Single-side Band Phase Noise, 100Hz from Carrier	-65 dBc/Hz	-67.3 dBc/Hz
Single-side Band Phase Noise, 1kHz from Carrier	-93.59 dBc/Hz	-95.3 dBc/Hz
Single-side Band Phase Noise, 10kHz from Carrier	-113.22 dBc/Hz	-114.23 dBc/Hz
Single-side Band Phase Noise, 100kHz from Carrier	-116.9 dBc/Hz	-117.36 dBc/Hz
Single-side Band Phase Noise, 1MHz from Carrier	-129.13 dBc/Hz	-129.93 dBc/Hz
Single-side Band Phase Noise, 10MHz from Carrier	-136.82 dBc/Hz	-136.78 dBc/Hz
Min/Maximum Output Duty Cycle, odc	43% / 57%	44% / 56%
Maximum Device Start-up Time	10 ms	20 ms
Page 13: Typical Phase Noise at 669.3266MHz RMS phase jitter (Random) 12Hz - 20MHz	0.384ps	0.359ps
Page 17: POWER CONSIDERATIONS Tj for an ambient temperature of 85ºC with all output switiching	113.4ºC	106.6ºC

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ATTACHMENT 1 - PCN # : A1108-03

IDT has qualified the new Die Attach material JM7000 for CD10 package.
The qualification result details are as follows:

Affected Packages: CDIP 10 (CD10)

Assembly Material: The affected package types will be assembled at Tai-Saw using the same ceramic substrate and design.

Sample Availability: Please contact your IDT sales representative for your sample request and availability.

Qualification Test Plan:

Following tests were performed on three assembly lots.

Test Description	Test Method	Lot# 1 (SS/Rej)	Lot# 2 (SS/Rej)	Lot# 3 (SS/Rej)
Temperature Cycling + End Point Electrical Test (-55°C to 125°C, 1000 cycle)	JESD22-A104	25/0	25/0	25/0
Mechanical Shock + End Point Electrical (Cond B, 1500 G Peak)	MIL-STD-883, M 2002	15/0	15/0	15/0
Mechanical Vibration + End Point Electrical (20 to 2000 Hz/20GHz Peak)	JESD22-A103A	15/0	15/0	15/0
Fine/Gross Leak (M1014 Cond C1 / A1)	MIL-STD-883, M 1014	15/0	15/0	15/0
X-ray Examination	MIL-STD-883, M 2015	15/0	15/0	15/0
Internal Vapor Content	MIL-STD-883, M 1018	50/0	50/0	50/0
Internal Visual Inspection	MIL-STD-883, M 2010	3/0	3/0	3/0
Die Shear Test ($\geq$ 2.5kg / 2500g)	MIL-STD-883, M 2019	5/0	5/0	5/0
Capacitor Shear Test ($\geq$ 100g)	-	5/0	5/0	5/0

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ATTACHMENT 2 - PCN # : A1108-03

Affected IDT Part # List

Part #	Package Type
8N3Q001FCJI-001	CD10
8N3Q001FCJI-001T	CD10
8N3QV01ACJI-011	CD10
8N3QV01ACJI-011T	CD10
8N3QV01LCJI-034	CD10
8N3QV01LCJI-034T	CD10
8N3QV01KC-0017CDI	CD10
8N3QV01KC-0017CDI8	CD10
8N3QX01XCJ	CD10
8N3QX01XCJT	CD10
8N3QX01XCJI	CD10
8N3QX01XCJIT	CD10