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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **DC1308-01R1** DATE **15-Jan-2014**

Product Affected: VFQFPN-56
Refer to Attachment I for the affected part numbers

Date Effective: **26-Sep-2013**

MEANS OF DISTINGUISHING CHANGED DEVICES:

- ■ Product Mark — Change in Ordering part#
- ☐ Back Mark
- ☐ Date Code
- ☐ Other

Contact: IDT PCN DESK
E-mail: pcndesk@idt.com

Attachment: ■ Yes ☐ No

Samples: Please contact your local sales representative for sample request.

DESCRIPTION AND PURPOSE OF CHANGE:

- ☐ Die Technology
- ☐ Wafer Fabrication Process
- ☐ Assembly Process
- ☐ Equipment
- ☐ Material
- ☐ Testing
- ☐ Manufacturing Site
- ☐ Data Sheet
- ■ Other

Revision 1:

This revised notification has the following changes:
1. Updated new ordering part#, where "1G25" version is replaced by "1G5" and "1G8" is replaced by "2G0".
2. Updated Qual report.

PCN effective date remains unchanged.

Original Notice:

This notification is to inform our customers that the product name of DAC1653 and DAC1658 families have been converted to the IDT standard format. IDT has changed product name ending "HN-C1" or "NLG-1" to "NLGA". The new product name will be reflected on the top mark.
"NLGA" version will contain a new silicon version.

Attachment I shows the affected list of part numbers.
Attachment II shows the qualification data.

RELIABILITY/QUALIFICATION SUMMARY:

There is no expected change to the product quality and reliability.

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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PRODUCT/PROCESS CHANGE NOTICE (PCN)

ATTACHMENT I - PCN # : DC1308-01R1

PCN Type: Change of die revision

Data Sheet Change: None

No change in moisture sensitivity level (MSL)

Detail Of Change:

This notification is to inform our customers that the product name of DAC1653 and DAC1658 families have been converted to the IDT standard format. IDT has changed product name ending "HN-C1" or "NLG-1" to "NLGA". Refer to Table 1.

The new product name will be reflected on the top mark.

"NLGA" version will contain a new silicon version. Refer to qualification data in attachment II.

Table 1: Ordering Part# Changes

Old Ordering Part Number	New Ordering Part Number
DAC1653D1G0NLG-C1	DAC1653D1G0NLGA
DAC1653D1G0NLG-C18	DAC1653D1G0NLGA8
DAC1653D1G25NLG-C1	DAC1653D1G5NLGA
DAC1653D1G25NLG-C18	DAC1653D1G5NLGA8
DAC1653D1G5NLG-C1	DAC1653D1G5NLGA
DAC1653D1G5NLG-C18	DAC1653D1G5NLGA8
DAC1653D1G8NLG-C1	DAC1653D2G0NLGA
DAC1653D1G8NLG-C18	DAC1653D2G0NLGA8
DAC1658D1G0NLG-C1	DAC1658D1G0NLGA
DAC1658D1G0NLG-C18	DAC1658D1G0NLGA8
DAC1658D1G25NLG-C1	DAC1658D1G5NLGA
DAC1658D1G25NLG-C18	DAC1658D1G5NLGA8
DAC1658D1G5HN-C1	DAC1658D1G5NLGA
DAC1658D1G5HN-C18	DAC1658D1G5NLGA8
DAC1658D1G8NLG-C1	DAC1658D2G0NLGA
DAC1658D1G8NLG-C18	DAC1658D2G0NLGA8

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Qualification Report

Date: 30/10/2013

Product Type: DAC1653D/1658D High-speed high-performance 16-bit dual channel DAC			
Product Options:	DAC1653D & DAC1658D	Process Technology:	CLN65LP, 1P7M
Package Type:	NLG56 (VFQFP-N 56L)	Fab Location:	TSMC (Taiwan)
Qual Plan:	QDC-12-01	Assembly Location:	ASE-K (Taiwan)

Test Descriptions

Test Description	Conditions	Sample Size	Results
ESD: Human Body Model	JESD22-A114 (JS-001) Classification	3	Class 2 (2.5KV)
ESD: Charged Device Model	JESD22-C101 Classification	3	Class IV (1.5KV)
Latch-Up	JESD78	6	Class II, Level A 3 pulses
Electrical Characterization	JESD86	10	Result reported in Datasheet
High Temperature Operating Life	JESD22-A108, Vcc_{max}, Tj +150°C, 1000 hrs	77 77 77	0/77 0/77 0/77
Early Life Failure Rate	JESD22-A108, Vcc_{max}, Tj +150°C, 48 hrs	840	0/840
Temperature Cycling[§]	JESD22-A104, -55°C to +125°C, 700 cycles	25 25 25	0/25 0/25 0/25
Highly Accelerated Temperature and Humidity stress (Biased)[§]	JESD22-A110, +130°C, 85% R.H., Vcc_{max},96 hrs	25 25 25	0/25 0/25 0/25
High Temperature Storage Life	JESD22-A103, +150°C, 1000 hrs	25 25 25	0/25 0/25 0/25

[§] With MSL preconditioning per JESD22-A113, MSL 3 (260°C)