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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **N1605-01** Date: May 18, 2016

Product Affected: 8T73S208A-01NLGI(8)

Date Effective: August 18, 2016

MEANS OF DISTINGUISHING CHANGED DEVICES:

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

Contact: TSD Clock Team

E-mail: clocks@idt.com

Attachment: ■ Yes ☐ No

Samples: Samples are available now.

DESCRIPTION AND PURPOSE OF CHANGE:

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

This notice is to advise our customers that the IDT Part 8T73S208B-01NLGI(8) is an updated version of the 8T73S208A-01NLGI(8) to improve the signal integrity of the differential device outputs Q0-Q7 during output enable/disable operation by clearing/setting the D0-D7 control bits through the I2C configuration interface.

There is a minor change to the top metal. The is no change to the die/package technology or manufacturing. The change in datasheet parameters is shown in Table 4A in page 4.

We are requesting a last time buy of the previous version by August 18, 2016.

RELIABILITY/QUALIFICATION SUMMARY:

There is no change in die technology/process.

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 1 - PCN #: N1605-01

PCN Type: Die Revision Change / Datasheet

Data Sheet Change: Yes

Detail of Change: This notice is to advise our customers that the IDT Part 8T73S208B-01NLGI(8) is an updated version of the 8T73S208A-01NLGI(8) to improve the signal integrity of the differential device outputs Q0-Q7 during output enable/disable operation by clearing/setting the D0-D7 control bits through the I2C configuration interface.
There is a minor change to the top metal. There is no change to the die/package technology or manufacturing. The change in datasheet parameters is shown in Table 4A in page 4. The power dissipation, at 85Celsius, changes from 636.575mW to 677.49mW. All other DC and AC specifications remain unchanged.

We are requesting a last time buy of the previous version by August 18, 2016.

Table 1

Old Ordering Part Number	New Ordering Part Number
8T73S208A-01NLGI	8T73S208B-01NLGI
8T73S208A-01NLGI8	8T73S208B-01NLGI8

Qualification Test Plan and Result:

Qual Vehicle: 8T73S208B-01NLGI

Test Description	Test Method (Latest specs in effect)	Test Results (SS / Rej)
ESD: Human Body Model @ 2000V	Each IO Pin Individually to I/O	3/0
ESD: Charged Device Model @ 500V	JESD22-C101	3/0
Latch-up	JESD78	6/0

FROM
8T73S208A-01NLGI

DC Electrical Characteristics

Table 4A. Power Supply DC Characteristics, $V_{CC} = V_{CCO} = 2.5V \pm 5\%$ or $3.3V \pm 5\%$, $V_{EE} = 0V$, $T_A = -40°C$ to $85°C$

Symbol	Parameter	Test Conditions	Minimum	Typical	Maximum	Units
V_{CC}	Power Supply Voltage		2.375	2.5V	2.625	V
V_{CC}	Power Supply Voltage		3.135	3.3V	3.465	V
V_{CCO}	Output Supply Voltage		2.375	2.5V	2.625	V
V_{CCO}	Output Supply Voltage		3.135	3.3V	3.465	V
I_{EE}	Power Supply Current			88	95	mA

1. Power Dissipation.

The total power dissipation for the 8T73S208A-01 is the sum of the core power plus the power dissipated due to loading.
The following is the power dissipation for $V_{CC} = 3.465V$, which gives worst case results.

NOTE: Refer to Section, "3. Calculations and Equations." for details on calculating power dissipated due to loading.

- Power $(core)_{MAX} = V_{CC_MAX} * I_{EE_MAX} = 3.465V * 95mA =$ **329.175mW**
- Power $(outputs)_{MAX} =$ **36.3mW/Loaded Output pair**
  If all outputs are loaded, the total power is 8 * 36.3mW = **290.4mW**
- Power Dissipation for Internal Termination R_T with V_T floating
  Power $(R_T)_{Max} = (V_{IN_MAX})^2 / R_{T_MIN} = (1.2)^2 /80 = 18mW$

Total Power$_{_MAX}$ = (3.465V, with all outputs switching) = 329.175mW + 290.4mW + 18mW = **636.575mW**

TO
8T73S208B-01NLGI

DC Electrical Characteristics

Table 4A. Power Supply DC Characteristics, $V_{CC} = V_{CCO} = 2.5V \pm 5\%$ or $3.3V \pm 5\%$, $V_{EE} = 0V$, $T_A = -40°C$ to $85°C$

Symbol	Parameter	Test Conditions	Minimum	Typical	Maximum	Units
V_{CC}	Power Supply Voltage		2.375	2.5V	2.625	V
V_{CC}	Power Supply Voltage		3.135	3.3V	3.465	V
V_{CCO}	Output Supply Voltage		2.375	2.5V	2.625	V
V_{CCO}	Output Supply Voltage		3.135	3.3V	3.465	V
I_{EE}	Power Supply Current			92	110	mA

1. Power Dissipation.

The total power dissipation for the 8T73S208B-01 is the sum of the core power plus the power dissipated due to loading.
The following is the power dissipation for $V_{CC} = 3.465V$, which gives worst case results.

NOTE: Refer to Section, "3. Calculations and Equations." for details on calculating power dissipated due to loading.

I_{EE_MAX} @ 85°C = 106.52mA

- Power $(core)_{MAX} = V_{CC_MAX} * I_{EE_MAX} = 3.465V * 106.52mA =$ **369.09mW**
- Power $(outputs)_{MAX} =$ **36.3mW/Loaded Output pair**
  If all outputs are loaded, the total power is 8 * 36.3mW = **290.4mW**
- Power Dissipation for Internal Termination R_T with V_T floating
  Power $(R_T)_{Max} = (V_{IN_MAX})^2 / R_{T_MIN} = (1.2)^2 /80 = 18mW$

Total Power$_{_MAX}$ = (3.465V, with all outputs switching) = 369.09mW + 290.4mW + 18mW = **677.49mW**