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

PRODUCT/PROCESS CHANGE NOTICE (PCN)

PCN #: **TP1906-05** Date: June 30, 2019

Product Affected: Refer to Page 3 for affected datasheets and part numbers

Date Effective: September 30, 2019

MEANS OF DISTINGUISHING CHANGED DEVICES:

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

Orderable part with "E" in part#

Contact: Peter Jenkins

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Samples: Available on request

DESCRIPTION AND PURPOSE OF CHANGE:

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

A minor die revision was made to improve the device performance.

In the current product the Device's System APLL could become unlocked when calibrated at one temperature and the operating temperature changes significantly at a later time.

The new part corrects the VCO control logic to fix the issue where System APLL could become unlocked at low temperatures.

There are also updates to the datasheets to correct some discrepancies.

A new orderable part number will distinguish this change. The current part number will be discontinued as of the effective date on this notice. The new part is available to ship now

An Example of part number change for version C to E

Current Part Number	**New Part Number**
8A34001C-000AJG	8A34001E-000AJG

RELIABILITY/QUALIFICATION SUMMARY:

There is no change to the form or fit of the device
There is no performance change
The functional changes are as listed in page 2

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.

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PCN Type: Minor Die Revision

Data Sheet Change: A new datasheet and part number created for change

Detail of Change: **Reason for Change:** Device's System APLL could become unlocked when calibrated at one temperature and the operating temperature changes significantly at a later time.

Description of Change: Correct VCO control logic to fix issue where System APLL could become unlocked at low temperatures. Also correct a number of datasheet discrepancies.

Detailed Description of Changes and Their Effects:

1) Correct System APLL Loss-of-Lock issue
    a. Changes made to several metal layers to increase VCO tuning sensitivity by a factor of 3x to require less VCO control voltage adjustment across temperature, which allows APLL to achieve and maintain lock for all ambient temperatures from -40°C to +85°C
    b. Embedded micro-controller firmware updated from v4.7.2 to v4.8.0
        i. Change to calibration algorithm for System APLL to support new tuning logic hardware
        ii. No changes to customer-visible register maps below offset 0x2010CF60

2) Device Revision incremented from 'C' to 'E'

3) Internal Temperature Sensor support removed

4) Removed ordering part numbers for 8A3400x devices that were to be used with IDT's IEEE-1588 protocol stack software.
    a. 8A3400xP part numbers will be discontinued and pin-compatible 8A3400x devices can be used instead.

5) Corrected input capacitance values for OSCI and OSCO pins for all parts.

6) Corrected textual descriptions for use of outputs in LVCMOS mode at 1.5V or 1.2V levels.
    a. AC/DC parametric tables were correct and so are not changed.

7) Removed datasheet reference to a single 16-bit register for incrementing / decrementing all DCOs in a single write since that register was not implemented

Please contact IDT if further detail are required.

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Affected Datasheets: 8A34001, 8A34002, 8A34003, 8A34004, 8A34011, 8A34012, 8A34013, 8A34041, 8A34042, 8A34043, 8A34044, 8A34045, 8A35012, 8A35024, 8A35027

Affected Parts:

Current Part Number	New Part Number
8A34001C-000AJG	8A34001E-000AJG
8A34001PC-000AJG	8A34001E-000AJG
8A34001C-000AJG8	8A34001E-000AJG8
8A34001PC-000AJG8	8A34001E-000AJG8
8A34002C-000NLG	8A34002E-000NLG
8A34002PC-000NLG	8A34002E-000NLG
8A34002C-000NLG8	8A34002E-000NLG8
8A34002PC-000NLG8	8A34002E-000NLG8
8A34002C-000NLG#	8A34002E-000NLG#
8A34002PC-000NLG#	8A34002E-000NLG#
8A34003C-000NBG	8A34003E-000NBG
8A34003PC-000NBG	8A34003E-000NBG
8A34003C-000NBG8	8A34003E-000NBG8
8A34003PC-000NBG8	8A34003E-000NBG8
8A34003C-000NBG#	8A34003E-000NBG#
8A34003PC-000NBG#	8A34003E-000NBG#
8A34004C-000NBG	8A34004E-000NBG
8A34004C-000NBG#	8A34004E-000NBG#
8A34004C-000NBG8	8A34004E-000NBG8
8A34011C-000AJG	8A34011E-000AJG
8A34011C-000AJG8	8A34011E-000AJG8
8A34012C-000NLG	8A34012E-000NLG
8A34012C-000NLG8	8A34012E-000NLG8
8A34012C-000NLG#	8A34012E-000NLG#
8A34013C-000NBG	8A34013E-000NBG
8A34013C-000NBG8	8A34013E-000NBG8
8A34013C-000NBG#	8A34013E-000NBG#
8A34041C-000AJG	8A34041E-000AJG

Current Part Number	New Part Number
8A34041C-000AJG8	8A34041E-000AJG8
8A34041C-999AJG	8A34041E-999AJG
8A34041C-999AJG8	8A34041E-999AJG8
8A34042C-000NLG	8A34042E-000NLG
8A34042C-000NLG8	8A34042E-000NLG8
8A34042C-000NLG#	8A34042E-000NLG#
8A34043C-000NBG	8A34043E-000NBG
8A34043C-000NBG8	8A34043E-000NBG8
8A34043C-000NBG#	8A34043E-000NBG#
8A34044C-000NLG	8A34044E-000NLG
8A34044C-000NLG8	8A34044E-000NLG8
8A34044C-000NLG#	8A34044E-000NLG#
8A34045C-000NLG	8A34045E-000NLG
8A34045C-000NLG8	8A34045E-000NLG8
8A34045C-000NLG#	8A34045E-000NLG#
8A34045C-001NLG	8A34045E-001NLG
8A34045C-001NLG8	8A34045E-001NLG8
8A34045C-001NLG#	8A34045E-001NLG#
8A35012C-000NLG	8A35012E-000NLG
8A35012C-000NLG8	8A35012E-000NLG8
8A35012C-000NLG#	8A35012E-000NLG#
8A35024C-000NLG	8A35024E-000NLG
8A35024C-000NLG8	8A35024E-000NLG8
8A35024C-000NLG#	8A35024E-000NLG#
8A35027C-000NLG	8A35027E-000NLG
8A35027C-000NLG8	8A35027E-000NLG8
8A35027C-000NLG#	8A35027E-000NLG#