



## Advanced Product Change Notification **Update**

202104053AU01 : TDF8546(A)J/TH/JS/JV/SU & TDF8541JV/SU Datasheet Clarification for the Use of Products in 2 Ohm Load Applications

**Note:** This notice is NXP Company Proprietary.

**Issue Date:** Jun 08, 2021

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### Management summary

Datasheet clarification for the use of products in 2 Ohm load applications.

### Change Category

<input type="checkbox"/> Wafer Fab Process	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Product Marking	<input type="checkbox"/> Test Process	<input type="checkbox"/> Design
<input type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Assembly Materials	<input type="checkbox"/> Mechanical Specification	<input type="checkbox"/> Test Equipment	<input type="checkbox"/> Errata
<input type="checkbox"/> Wafer Fab Location	<input type="checkbox"/> Assembly Location	<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Location	<input checked="" type="checkbox"/> Electrical spec./Test coverage
<input type="checkbox"/> Firmware	<input type="checkbox"/> Other			

## PCN Overview

### Description

TDF8546(A)J/TH/JS/JV/SU & TDF8541JV/SU datasheet clarification for the use of products in 2 Ohm load applications. For JV & SU package variants support of 2 Ohm load applications is excluded, for all other packages 2 Ohm load applications are strictly restricted as described in detail below.

### Reason

- Background
  - 2011: TDF8546 was qualified with a 1kHz signal in the J package version. Other package variants qualified by structural similarity
  - 2016: Application Note AN10987 was updated to recommend 135C pre-warning for 2 Ohm applications
  - 2019: TDF8546JV/SU & TDF8541JV/SU were introduced as a non-drop-in replacement, with limitations due to thermal performance of the package
  - 2021: Gained new insights into further 2 Ohm application limitations through customers and additional stress tests
  - TDF8546J/TH package: When more than 2 channels with 2 Ohm load are connected in BEQ mode, the temperature in the output transistor area can reach critical levels for low frequencies which can reduce the lifetime. This effect appears only in BEQ mode as this mode causes a higher peak dissipation in the output transistors compared to BTL mode.

- TDF8546JV/SU & TDF8541JV/SU: The JV & SU packages have a higher thermal resistance caused by glue and an exposed die-pad which results in a higher temperature in the output transistor area. For low frequencies, this temperature can increase to critical levels which can reduce the lifetime.

- Clarification

- The TDF8546J/TH can support only up to 2 channels with 2 Ohm load in BEQ mode. In BTL mode the TDF8546J/TH can support 4 channels with 2 Ohm load.
- TDF8546JV/SU & TDF8541JV/SU cannot support 2 Ohm load at all.

- PCN Timeline & Final Conclusion

- Final conclusions will be available after dedicated stress tests for TDF8546(A) in J and TH package have been concluded.
- PCN is expected to be issued in Q3 2021 announcing the datasheet changes of above mentioned types.

**Identification of Affected Products**

Product identification does not change

**Product Availability**

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**Sample Information**

Samples are available upon request

**Production**

Planned first shipment Jun 16, 2021

**Anticipated Impact on Form, Fit, Function, Reliability or Quality**

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No Impact on form, fit, function, reliability or quality

**Data Sheet Revision**

A new datasheet will be issued

**Disposition of Old Products**

Not Applicable

**Timing and Logistics**

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The Self Qualification Report will be ready on Jun 08, 2021.

The Final PCN is planned to be issued on: Jul 31, 2021.

In compliance with JEDEC J-STD-046, your acknowledgement of this change is expected by Jul 08, 2021.

**Remarks**

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This is only Datasheet Clarification, product design and electrical test specification stays the same.

**Update Information**

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2 Ohms Load clarification.

**Contact and Support**

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<b>Affected OPN</b>	<b>12NC</b>
TDF8546AJS/N1,512	935297991512
TDF8546AJS/N1ZMP	935304911528
TDF8546AJS/N1ZS	935304911512
TDF8546AJV/N1ZU	935358763112
TDF8546ASD/N1,112	935297989112
TDF8546ASD/N1ZU	935304913112
TDF8546ASU/N1ZU	935368269112
TDF8546ATH/N1,118	935297988118
TDF8546ATH/N1ZJ	935304915118
TDF8546JS/N2,512	935297755512
TDF8546JS/N2ZMP	935304923528
TDF8546JS/N2ZS	935304923512
TDF8546JV/N2ZU	935358784112
TDF8546TH/N2,118	935297757118
TDF8546TH/N2ZJ	935304925118
TDF8541JV/N3ZU	935377197112
TDF8541SU/N3ZU	935377908112