Advanced Product Change Notification

202104053A : 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: Apr 30, 2021

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Management summary

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

Change Category

[ ]Wafer Fab Process	[ ]Assembly Process	[ ]Product Marking	[ ]Test Process	[ ]Design
[ ]Wafer Fab Materials	[ ]Assembly Materials	[ ]Mechanical Specification	[ ]Test Equipment	[ ]Errata
[ ]Wafer Fab Location	[ ]Assembly Location	[ ]Packing/Shipping/Labeling	[ ]Test Location	[X]Electrical spec./Test coverage
[ ]Firmware	[ ]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 package variants support of 2 Ohm load applications is excluded, for all other packages 2 Ohm load applications will be restricted to two channels 2 Ohm and two channels 4 Ohm.

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: JV was 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 & 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 not more than 2 channels with 2 Ohm load in BEQ mode. In BTL mode the TDF8546J/TH can support 4 channels with 4 Ohm load.
− TDF8546JV & TDF8541JV/SU cannot support 2 Ohm load.

• 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 July 2021 announcing the datasheet changes of above types.

Identification of Affected Products
Product identification does not change

Product Availability

Sample Information
Samples are available upon request
Production
Planned first shipment Apr 28, 2021

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

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

The Self Qualification Report will be ready on Apr 28, 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 May 30, 2021.

Remarks

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

Contact and Support

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For all Quality Notification content inquiries, please contact your local NXP Sales Support team.

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NXP Quality Management Team.

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NXP Semiconductors
High Tech Campus, 5656 AG Eindhoven, The Netherlands

Affected OPN

TDF8546AJS/N1,512
TDF8546AJS/N1ZMP
TDF8546AJS/N1ZS
TDF8546AJV/N1ZU
TDF8546ASD/N1,112
TDF8546ASD/N1ZU
TDF8546ASU/N1ZU
TDF8546ATH/N1,118
TDF8546ATH/N1ZJ
TDF8546JS/N2,512
TDF8546JS/N2ZMP
TDF8546JS/N2ZS
TDF8546JV/N2ZU
TDF8546TH/N2,118
TDF8546TH/N2ZJ
TDF8541JV/N3ZU
TDF8541SU/N3ZU