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Changes of materials for TFDU4101-TT3 and TFDU4101-TR3

For further information, please contact your regional Vishay office.

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Description of Change: -Introduction of a new in-house designed IRDC IC. The Chaldene IC provides 20 percent longer distance (in meters) and improved ESD robustness from current 1kV to 2kV.

- Introduction of a new Surface Emitting Technology Chip.
 - Changeover of the Au wire Diameter from 30um to 25um.
- We recommend to test the product in customers application.

Classification of Change: - New IC:

The existing external IC Supplier will end the production. In order to assure a long-term product availability of IRDC products, Vishay developed an inhouse IC in cooperation with the worlds leading Chip Foundry.

-New Emitter Chip:
Changeover to latest Surface Emitting Technology to assure long-term product availability.

-Au wire Diameter reduction:
In order to streamline the production and optimize the material supply chain, Vishay introduces a new Standardization of Au wire Diameter. The material is qualified to high Standards.

Expected Influence on Quality/Reliability/Performance: No change on Quality/Reliability. Similar electrical and optical characteristics.

Part Numbers/Series/Families Affected: TFDU4101-TR3, TFDU4101-TT3,

Vishay Brand(S): Vishay Semiconductors

Time Schedule:

Start Shipment Date: Sun Oct 15, 2023

Sample Availability: 17/07/2023



Product Change Notification



Product Group: OPT/Fri Jul 14, 2023/PCN-OPT-1257-2022-REV-0

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Product Identification: via date code

Qualification Data: Qual pack will be available cw30 onwards.

This PCN is considered approved, without further notification, unless we receive specific customer concerns before Sun Sep 3, 2023 or as specified by contract.

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Changes of materials for TFDU4101-TR3 and TT3

Vishay Opto has published PCN-OPT-1257-2022 announcing materials changes for the IRDC Transceiver products:

- Introduction of a new in-house designed IRDC IC.
-Introduction of a new Surface Emitting Technology Chip.
-Changeover of the Au wire Diameter from 30um to 25um.

We recommend to order samples and test the products in customers application.

FAQ:

Q: Are there any technical differences (form/fit/function) expected?

A: Mechanically there are no changes.

Electrically/Optically the performance of the Transceiver changes.

TFDU4101TR-3 and TT3 parts with new materials offer:

- 20% longer distance (in meter)
• Improved ESD robustness: From current 1KV HBM to 2KV
• Wider supply voltage capability:
The part functions below 2V, which could increase battery lifetime.

Below is a comparison of some datasheet values:

Table with 5 columns: Symbol, before, after, Unit. Rows include Transmitter (TFDU41: Output radiant intensity), Receiver (Maximum irradiance Ee in angular range), and Transceiver (Average dynamic supply current, transmitting).

For all details, please check the latest datasheet on www.vishay.com .

Q: When do we plan to implement the new materials in production?

A: In Vishay production work week 42 2024.

Q: How can the customer distinguish products including these changes?

A: The PCN announces a changeover date (production work week). The standard bar code label contains the production week as shown below (Batch 202222PH19 produced in ww22 2022). A green sticker will be added to the box label for shipments which include the changes:



Q: Why has Vishay introduced these changes?

A: - New IC:

The existing external IC Supplier will end the production. In order to assure a long-term product availability of IRDC products, Vishay developed an inhouse IC in cooperation with the world’s leading Chip Foundry.

-New Emitter Chip:

Changeover to latest Surface Emitting Technology to assure long-term product availability.

-Au wire Diameter reduction:

In order to streamline the production and optimize the material supply chain, Vishay introduces a new Standardization of Au wire Diameter. The material is qualified to high Standards.

Q: Are datasheets available?

A: Yes. The updated datasheets are available on our website 19th July 2023.

The header will state that the datasheet content is in accordance with this PCN:

Datasheet Values Refer to PCN-OPT-1257-2022

Q: Are samples of TFDU4101-TR3/TT3 Series available?

A: Yes, samples can be ordered by contacting me or our Regional Marketing colleagues.

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