

Würth Elektronik eiSos GmbH &amp; Co. KG

EMC &amp; Inductive Solutions

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## Product / Process Change Notification (PCN)

- Major change  
 Minor change

<b>PCN #:</b> PCN_FDSM_20190826 <b>Affected Series:</b> WE-FDSM; 173950378; 173950578  <b>PCN Date:</b> July 25, 2019 <b>Effective Date:</b> August 26, 2019	<b>Change Category:</b> <input type="checkbox"/> Equipment / Location <input checked="" type="checkbox"/> General Data <input type="checkbox"/> Material <input type="checkbox"/> Process <input type="checkbox"/> Product Design <input type="checkbox"/> Shipping / Packaging <input type="checkbox"/> Supplier
<b>Contact:</b> Product Management <b>Phone:</b> +49 (0) 7942 - 945 5001 <b>Fax:</b> +49 (0) 7942 - 945 5179 <b>E-Mail:</b> pcn.eisos@we-online.com	<b>Data Sheet Change:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  <b>Attachment:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

### DESCRIPTION AND PURPOSE OF CHANGE:

In the continuous process of offering more value to our customers, Würth Elektronik has enlarged the technical content of the MagI<sup>3</sup>C power module 173950378 & 173950578 (SIP-3 28V<sub>IN</sub> 3.3V / 5V<sub>OUT</sub> 0.5A) datasheet significantly.

Update datasheet revision to 2.0.

In addition some electrical specifications are provided in a more precise way (see below).

There will be no change in form, fit, quality or reliability of the product.

### DETAIL OF CHANGE:

#### ELECTRICAL SPECIFICATIONS

- Absolute maximum voltage for output pin has been added (min. -0.6V; max. 30V)
- Case-to-ambient thermal resistance added (70K/W)
- Maximum case temperature added (100°C)
- Junction temperature at which thermal shutdown occurs has been added (T<sub>SD</sub> = 165°C)
- Typical values for output voltage ripple has been added (typ. 10mVpp)
- Efficiency measurements with min. and max. input voltage has been added
- Some symbols changed: I<sub>Q</sub> replaced by I<sub>IN</sub>, V<sub>IN</sub> for absolute maximum ratings replaced by V<sub>IN</sub>, T<sub>ST</sub> replaced by T<sub>storage</sub>, C<sub>LOADMAX</sub> has been replaced by C<sub>OUT MAX</sub>
- Symbols added: I<sub>CL</sub> for Current limit threshold
- Symbols removed: ΔV<sub>OUT</sub> / ΔV<sub>IN</sub>: Line regulation, ΔV<sub>OUT</sub> / ΔI<sub>OUT</sub>: Load regulation

**This has no impact on existing designs. No changes of the application circuitry have to be applied.**

No further amendments in the electrical specifications have been done.

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Additional information has been included in the datasheet:

- Bookmarks have been activated for quick chapter navigation
- Package bottom view has been added
- Marking description has been added
- Features section has been updated for a better overview of the features at a glance
- Typical circuit diagram has been updated
- Ordering information of related family members has been added
- Information about pin compatible family members has been added
- In the sales contact section: Changed web link to [www.we-online.com/powermodules](http://www.we-online.com/powermodules) and added descriptor "Technical Support:" in front of [powermodules@we-online.de](mailto:powermodules@we-online.de)
- Electrical specifications table has been structured in sections in order to improve readability
- RoHS, REACH section has been added
- Package specification section has been added
- All electrical performance curves have been measured with higher resolution and presented with improved readability
- Section typical performance curves: Updated EMI standard from EN55022 to EN55032. Updated limit lines to full anechoic room measurement
- EMI test result (conducted and radiated) have been added with two different test conditions (short and long wire)
- Power dissipation diagrams has been added
- Line and load regulation diagrams have been added
- Block diagram rearranged for better readability
- Output voltage ripple diagrams has been updated for better readability
- Effect of soft-start is shown
- Light load operation description has been added with inductor current diagrams
- Overvoltage protection, overcurrent protection, short circuit protection and over temperature protection are described in detail and graphs has been added
- EVAL board description has been extended with an explanation of the circuit, operational instructions and bill of material
- EMI Filter design section with two different test condition has been added
- Application section (generating negative output and complementary voltage) with block diagrams and description has been added
- Wave solder profile section has been added
- Physical dimensions section has been updated for better understanding and readability

#### RELIABILITY / QUALIFICATION SUMMARY:

Product specification approval, according to internal requirements, has been released by the Quality Department and the Product Management Department.