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Product / Process Change Notification (PCN)

☒ Major change
☐ Minor change

PCN #:	PCN_VDRM_20180901	**Change Category:**
Affected Series:	VDRM; 171050601	☐ Equipment / Location ☒ General Data ☐ Material ☐ Process ☐ Product Design ☐ Shipping / Packaging ☐ Supplier
PCN Date:	August 01, 2018	
Effective Date:	September 01, 2018	
Contact:	Product Management	**Data Sheet Change:**
Phone:	+49 (0) 7942 - 945 5001	☒ Yes ☐ No
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E-Mail:	pcn.eisos@we-online.com	☒ Yes ☐ 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 MagI³C power module 171 050 601 (TO263 5.0A 5Vout) 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

- I_{OCP} parameter (Over current protection, min.value 5.4A) replaced by low-side current limit threshold (I_{CL_LS}, typ. 5.4A) and high-side current limit threshold (I_{CL_HS}, typ. 7A).
- Output voltage ripple conditions slightly changed and typical value updated (from 9mVpp to 6mVpp)
- Efficiency test conditions slightly changed and typical values updated
- Load regulation test conditions changed (from V_{IN}= 12 to 36V to V_{IN} = 12V)
- Some symbols changed: I_{EN-HYS} replaced by I_{EN}, f_{SYNC} replaced by f_{CLK}, $V_{IL-SYNC}$ replaced by V_{CLK-L}, $V_{IH-SYNC}$ replaced by V_{CLK-H}, $SYNC_{d.c.}$ replaced by D_{CLK}

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

No further changes in the electrical specifications have been done.

Additional information has been included in the datasheet:

- Bookmarks have been activated for quick chapter navigation
- Package bottom view has been added

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- Marking description has been added
- Ordering information of related family members has been added
- Electrical specifications table has been structured in sections in order to improve readability
- MTBF data have been added
- All electrical performance curves have been measured with higher resolution and presented with improved readability
- EMI test result (conducted and radiated) have been added
- Line and load regulation diagrams have been added
- Block diagram rearranged for better readability
- Links for equations, chapters, parameters, etc. have been implemented for easy navigation within the document
- Output capacitor selection approach is explained and mathematically calculated based on ripple and transient requirements
- Load transition waveforms are displayed. A practical example is calculated and measured waveforms are presented.
- Effect of soft-start is shown
- Tracking section extended and both simultaneous and ratiometric tracking explained and waveforms shown
- Light load operation description has been added with inductor current diagrams
- Synchronization explained more in depth with waveform and an example of implementation is also shown
- Overvoltage protection, overcurrent protection, short circuit protection, startup into pre-biased load and over temperature protection are described in detail and graphs have been added
- Power dissipation example updated and graph for PCB area estimation added
- Layout section (including filter) has been upgraded with more details, close up PCB pictures and additional recommendations
- EVAL board description has been extended with an explanation of the circuit and operational instructions
- EMI Filter design section has been added

RELIABILITY / QUALIFICATION SUMMARY:

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