



Product / Process Change Notification (PCN)

- Major Change
 Minor Change

PCN Number: PCN_WPME-FIMM_20241122

Affected Series: WPME-FIMM

Affected Order Codes: 1769205132

PCN Date: 2024-10-22 (YYYY-MM-DD)

Effective Date: 2024-11-22 (YYYY-MM-DD)

Change Category:

- Equipment/Location
 General Data
 Material
 Process
 Product Design
 Shipping/Packaging
 Supplier
 Software

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Datasheet Change:

- Yes No

Attachment:

- Yes No

Description of Change:

Due to an improvement of the production capability, Würth Elektronik eiSos has shifted the production of the affected order codes to a new factory location.

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

The new revision of the affected order codes will be sent out after the previous revision is out of stock (according to FIFO - first-in, first-out).

Details of Change:

All changes indicated below apply to all order codes in this PCN.

Previous production line	New production line
Lot number beginning with: 489xxxxxxxxxxx	Lot number beginning with: 682xxxxxxxxxxx
Country of origin: China	Country of origin: China



Due to the change in production line the isolation voltage test specification has changed. The module is now 100% production tested with 3.3kV for 3 seconds. The changed test voltage level and time is indicated in the notes section within the data sheet.

Before Change

4 ABSOLUTE MAXIMUM RATINGS

Caution:
 Exceeding the listed absolute maximum ratings may affect the device negatively and may cause permanent damage.

Table 5: Absolute maximum ratings.

SYMBOL	PARAMETER	LIMIT		UNIT
		MIN ⁽¹⁾	MAX ⁽¹⁾	
V _{IN}	Input pin voltage	0.4	10	V
V _{OUT}	Output pin voltage	-0.7	16	V
V _{ISO}	Isolation voltage input to output for 1s ⁽²⁾	—	4	kV
V _{ISO}	Isolation voltage input to output, 100% tested for 60s ⁽²⁾	—	3	kV
T _{storage}	Assembled, non-operating storage temperature	-55	125	°C
V _{ESD}	ESD Voltage (HBM), according to EN61000-4-2 ⁽³⁾	-4	4	kV

12 NOTES

- (1) Min and Max limits are 100% production tested at 25 °C. Limits over the operating temperature range are guaranteed through correlation using Statistical Quality Control (SQC) methods.
- (2) Measured without heatsink. Natural convection (0 - 20LFM / 0 - 0.1m/s) Test PCB 80mm x 80mm horizontal orientation 35µm copper on top and bottom.
- (3) Typical numbers are valid at 25 °C ambient temperature and represent statistically the utmost probability assuming the Gaussian distribution.
- (4) The human body model is a 100pF capacitor discharged through a 1.5 kΩ resistor into each pin. Test method is per JESD-22-114.
- (5) Depending on ambient temperature, see thermal derating diagram (Output Power).
- (6) Not production tested. It is a design parameter.
- (7) Test voltage as defined by the UL62368-1.
- (8) Overload current, see Duty Cycle I_{MOOC} & Temperature Derating I_{MOOC}.
- (9) Within the complete V_{IN} operating range.
- (10) MIL-HDBK-217F; GB Ground, Benign: Non mobile, temperature and humidity controlled environments readily accessible to maintenance; includes laboratory instruments and test equipment, medical electronic equipment, business and scientific computer complexes, and missiles and support equipment in ground silos; MTBF value is referring to 1769205132.

After Change

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- (4) The human body model is a 100pF capacitor discharged through a 1.5kΩ resistor into each pin. Test method is per JESD-22-114.
- (5) Depending on ambient temperature, see thermal derating diagram (Output Power).
- (6) Not production tested. It is a design parameter.
- (7) Test voltage as defined by the UL62368-1. EOL test is done with elevated voltage level of 3.3kV for 3s.
- (8) Overload current, see Duty Cycle I_{MOOC} & Temperature Derating I_{MOOC}.
- (9) Within the complete V_{IN} operating range.
- (10) Due to the converter topology, the external output voltage ripple frequency is twice the internal clock frequency.
- (11) MIL-HDBK-217F; GB Ground, Benign: Non mobile, temperature and humidity controlled environments readily accessible to maintenance; includes laboratory instruments and test equipment, medical electronic equipment, business and scientific computer complexes, and missiles and support equipment in ground silos; MTBF value is referring to 1769205132.

Due to the change in production line the UL certification is changed to pending until the UL recognition process is fulfilled.

Before Change

1769205132
Magi³C Power Module
 WPME-FIMM - Fixed Isolated MicroModule



5V Input / 1W / 3kV Functional Isolated / Unregulated 5V Output

DESCRIPTION

The FIMM 1769205132 Magi³C power module is an unregulated, functionally isolated, fully integrated DC/DC converter.

The module integrates the switching power stage, control circuitry, transformer and input/output capacitors.

The module requires no external components for operation thus reducing design effort and complexity to a minimum.

The FIMM module ensures fast time to market and low development costs.

The 1769205132 module achieves an efficiency up to 91%.

The module is available in an LGA-7 package (9 x 7 x 3.1mm).

FEATURES

- 3kV DC functional isolation for 60s
- Nominal input voltage rail: 5V
- Output voltage: 5V unregulated
- Low output voltage ripple: Typ. 50mV at full load
- Output voltage accuracy: Typ. -2.5% at full load
- Output power: 1W (0.2A)
- Dynamic power boost up to 0.3A for 0.5s
- Continuous short-circuit protection
- Isolation capacitance of typ. 8pF
- Integrated C_{in}, C_{out} and transformer
- Operating ambient temperature range: -40 °C to 125 °C
- RoHS & REACH compliant
- Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard
- UL62368-1 recognized

After Change

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- Complies with EN55032 (CISPR-32) class B conducted and radiated emissions standard
- UL62368-1 pending



Due to change in production line location the dimension of packaging as well as the amount of reels per carton have been changed.

Item	Previous production line	New production line
Cover tape length per reel	52m	46.8m
Carrier tape length per reel	51m	45.9m
Guard band length per reel	8m	7.2m
# Reels per carton	10	9

Reliability / Qualification of Change:

An additional reliability testing was performed and approved. Sample size is valid for every single part number stated in this PCN unless otherwise noted.

Additional details of the tests can be found in the table below:

Test Item	Sample Size	Reference	Test Conditions	Acceptance
Temperature Cycling	25	JESD22 Method JA-104	Temperature: -40°C to 125°C Testing Time: 1000 cycles Test Cycles/h: 3 Min. soak time: 1 min	Approved
Five Times Reflow	25	Internal	Peak reflow temperature acc. datasheet solder profile reference	Approved
Electrical Characterization	30	User Spec.	Measure electrical DC performance @25 °C, - 40 °C, 105 °C Transient performance tests @25°C	Approved
Low Temperature Storage Life	25	JESD22-A119	1000hrs @ -40°C	Approved
High Temperature Storage Life	25	JESD22-A119	1000hrs @ 125°C	Approved
High Pot Test	5	UL62368-1	Specified isolation voltage value tested for 60s. Given design parameter tested for 1s	Approved
Unbiased Temperature Humidity	25	JESD22-A118B	264 hrs @ 110°C / 85% r.H.	Approved