

## Wolfspeed® Product/Process Change Notification

PCN Number: PCN-00036

PCN Issue Date:

September 27, 2022

PCN Type: Major

### PCN Title

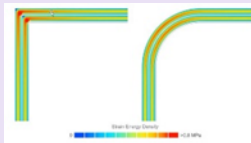
Expansion of 150-mm Wafer Manufacturing for All Packaged E3M 1200 V 75 mΩ SiC MOSFETs at Wolfspeed's Durham (DUR) Facility

### Description of the Change

Wolfspeed's E3M 1200 V 75 mΩ SiC MOSFETs are currently manufactured on 150-mm diameter wafers at Wolfspeed's fabrication facility in Research Triangle Park (RTP), North Carolina, USA. The production line is now being expanded to utilize Wolfspeed's capacity at its fabrication facility in Durham (DUR), North Carolina, USA. Note that all tools of both facilities are nth-of-a-kind (NOAK) tools, namely, same tool set, same process, same process controls, same chart setup, same automation, same interface, etc.

The design has been also improved to include the latest Wolfspeed robust design practice for Automotive to improve the devices reliability as summarized in Table 1.

**Table 1.** Description of the Change.

Change from	Change to
Current source metallization Al 4 μm / Ti 250 Å	Improved source metallization AlCu 4 μm / TiN 2000 Å / Ti 1500 Å
Design same as C3M industrial components	Design with rounded corners and additional spacing between some design elements to reduce thermomechanical stress for improved reliability
	

### Benefit of the Change

This expansion will ensure Wolfspeed's continued ability to provide products to customers within standard delivery times. The goal is to provide quality products that meet and exceed customer expectations.

### Affected Products

Table 2 lists the products affected by this Major PCN on the date this PCN is issued.

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**Table 2. Affected Products List.**

Wolfspeed Part Number	Description	Junction Temperature Range (T <sub>J</sub> )
E3M0075120D	1200 V, 75 mΩ	-55 to 175 °C
E3M0075120K	1200 V, 75 mΩ	-55 to 175 °C

## Qualification Report and Status

The affected products shown in Table 2 have been qualified based on the compilation of the guidelines of AEC-Q101, Stress Test Qualification for Automotive Grade Semiconductors, and JEDEC document JESD47, Stress-Test-Driven Qualification of Integrated Circuits, and references therein. Standard production devices were sampled for the qualification. The qualification report can be made available for review.

## Anticipated Impact

There is no anticipated change to the function or reliability of the products listed in Table 2. The additional DUR facility is a Class-100 (ISO 5) cleanroom certified to meet the ISO 9001: 2015 and IATF 16949:2016 standards. It has been a fully functional Wolfspeed-owned semiconductor manufacturing facility in operation for more than 20 years.

There is no change to the backend assembly processes. As such, the device package is not impacted. Products manufactured at the DUR facility will have identical specifications and part numbers to those manufactured today. Customers may continue to place orders using the same part numbers.

## Implementation Date

Table 3 provides the estimated dates for key PCN milestones based on the information available on the date this PCN is issued. Any updates to these dates can be provided by your Wolfspeed contact.

**Table 3. Estimated Key PCN Dates.**

Wolfspeed Part Number	Projected Completion Date for Qualification Report	Projected First Ship Date*
E3M0075120D	September 2022	November 2022
E3M0075120K	September 2022	November 2022

\* Specific product schedules should be discussed with Wolfspeed sales and marketing representatives. Earlier ship date may be possible with customer approval.

## Customer Acknowledgement

Customer is requested to acknowledge this notification within 30 days from its issue date by signing this PCN, scanning it into a pdf file, and emailing the file and any feedback to Wolfsped at PCN@wolfsped.com. Note that Wolfsped references the JEDEC J-STD-046 guidelines for its PCNs. In accordance with J-STD-046, this change is deemed acceptable to the customer if no acknowledgement is received within 30 days from the PCN issue date.

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Customer Comment: \_\_\_\_\_

Customer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Contact Information

If you have any questions regarding this Major PCN, please refer to the contact information listed in Table 4.

**Table 4. PCN Contact.**

<b>Wolfsped Contact</b>	Marco Atzeri
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## Revision History

Date	Revision	Description
September 27, 2022	0	Initial release