

## Wolfspeed® Product/Process Change Notification

PCN Number: CREE-PCN-1375  
PCN Type: Advance

PCN Issue Date: January 12, 2022

### 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.

### 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 1 lists the expected products affected by this courtesy PCN on the date this PCN is issued.

**Table 1. 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 Status and Plan

E3M0075120D and E3M0075120K will be qualified to the qualification plan as summarized in Table 2. The qualification report can be made available for review after the qualification is completed.

**Table 2. Qualification Plan.**

1200 V, 75 mΩ (Automotive)		
Test	Lots / # devices	Pkg
HTRB: 1200 V, 175 °C, 1000 hrs	3x77	TO247-4L
THB/H3TRB: 100 V, 85 °C/85% RH, 1000 hrs	3x77	TO247-4L
THB/H3TRB: 960 V, 85 °C/85% RH, 1000 hrs	3x77	TO247-4L
UHASt: 130 °C, 85% RH, 96 hrs	3x77	TO247-4L
HTGB(-): -8 V, 175 °C, 1000 hrs	3x77	TO247-4L
HTGB(+): +19 V, 175 °C, 1000 hrs	3x77	TO247-4L
HTGS: -8 V to +19 V 10% DC, 175 °C 100 hrs	3x77	TO247-4L
TC: -55 to 150 °C, 1000 cycles	3x77	TO247-4L
PC+IOL: Delta Tj ≥ 100 °C for 1000 hrs 3.5min on/off	3x77	TO247-4L
TDDb: 175 °C	3x40	TO247-4L
ESD-HBM: AEC-101-001	3x10	TO247-4L
ESD-CDM: AEC-101-005	3x10	TO247-4L
MSL Classification	2x11	TO247-4L

## Anticipated Impact

There is no change to form, fit, function, or reliability of the products listed in Table 1. 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.

This change impacts the wafer production line only, and no changes are made 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.

Wolfspeed will not mix source wafer types within the individual builds of packaged discrete devices. Each packaged device date code will only be sourced from either the existing manufacturing line or the expanded manufacturing line. Note that device shipments to distributors or customers may contain a mix of date codes and therefore, these shipments can contain a mix of date codes sourced from the different production lines. Traceability to manufacturing line will be maintained by Wolfspeed.

## Key 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	April 2022	June 2022
E3M0075120K	April 2022	June 2022

\* Specific product schedules should be discussed with Wolfspeed sales and marketing representatives.

## 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 Wolfspeed at PCN@wolfspeed.com. Note that Wolfspeed 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 advance PCN, please refer to the contact information listed in Table 4.

**Table 4. PCN Contact.**

<b>Wolfspeed Contact:</b>	Product Marketing
<b>Wolfspeed Contact E-Mail:</b>	marco.atzeri@wolfspeed.com
<b>Address:</b>	4600 Silicon Drive Durham, NC 27703 USA

## Revision History

Date	Revision	Description
January 12, 2022	0	Initial release