

Wolfspeed® Product/Process Change Notification

PCN Number: PCN-00019
PCN Type: Informational

PCN Issue Date: 7/11/2022

PCN Title

Expansion of 150-mm Wafer Manufacturing for All Packaged C3M 1200 V 16 mΩ, 21 mΩ, 32 mΩ, 40 mΩ, 75 mΩ, 160 mΩ, and 350 mΩ SiC MOSFETs at Wolfspeed's Durham (DUR) Facility

Description of the Change

Wolfspeed's C3M 1200 V 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. All tools and processes of both facilities are qualified through the internal Process Change Review Board (PCRB).

Benefit of the Change

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

Affected Products

Table 1 lists the products affected by this courtesy notification.

Table 1. Affected Products List.

Wolfspeed Part Number	Description	Junction Temperature Range (T _j)
C3M0016120D	1200 V, 16 mΩ	-40 °C – 175 °C
C3M0016120K	1200 V, 16 mΩ	-40 °C – 175 °C
C3M0021120D	1200 V, 21 mΩ	-40 °C – 175 °C
C3M0021120K	1200 V, 21 mΩ	-40 °C – 175 °C
C3M0032120D	1200 V, 32 mΩ	-40 °C – 175 °C
C3M0032120K	1200 V, 32 mΩ	-40 °C – 175 °C
C3M0040120D	1200 V, 40 mΩ	-40 °C – 175 °C
C3M0040120K	1200 V, 40 mΩ	-40 °C – 175 °C
C3M0075120D	1200 V, 75 mΩ	-55 °C – 150 °C
C3M0075120D-A	1200 V, 75 mΩ	-40 °C – 175 °C
C3M0075120J	1200 V, 75 mΩ	-55 °C – 150 °C
C3M0075120K	1200 V, 75 mΩ	-55 °C – 150 °C
C3M0075120K-A	1200 V, 75 mΩ	-40 °C – 175 °C
C3M0160120D	1200 V, 160 mΩ	-55 °C – 150 °C

C3M0160120J	1200 V, 160 mΩ	-55 °C – 150 °C
C3M0350120D	1200 V, 350 mΩ	-55 °C – 150 °C
C3M0350120J	1200 V, 350 mΩ	-55 °C – 150 °C

Qualification Status and Plan

All parts will be qualified to the tests listed in the qualification plan for each respective part number. The tests for C3M0016120D, C3M0016120K, C3M0021120D, C3M0021120K, C3M0032120D, C3M0032120K, C3M0040120D, C3M0040120K, C3M0075120D, C3M0075120D-A, C3M0075120J, C3M0075120K, and C3M0075120K-A have been performed to meet or exceed the test parameters listed in the existing qualification reports. The qualification testing results for the remaining parts shown in Table 2 will be discussed and summarized in the upcoming qualification reports.

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.

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.

Key Implementation Dates

Table 2 provides the projected dates for key PCN milestones, based on the information available on the date this PCN is issued. Any update to these dates can be provided by the Wolfspeed contact listed in Table 3.

Table 2. Key PCN Estimated Dates.

Wolfspeed Part Number	Qualification Report Availability	First Ship Date
C3M0016120D	1/20/22	2/15/22
C3M0016120K	1/20/22	2/15/22
C3M0021120D	6/11/21	6/11/21
C3M0021120K	6/11/21	6/11/21
C3M0032120D	6/11/21	6/11/21
C3M0032120K	6/11/21	6/11/21
C3M0040120D	8/4/21	8/6/21

C3M0040120K	8/4/21	8/6/21
C3M0075120D	6/11/21	6/11/21
C3M0075120D-A	6/11/21	6/11/21
C3M0075120J	6/11/21	6/11/21
C3M0075120K	6/11/21	6/11/21
C3M0075120K-A	6/11/21	6/11/21
C3M0160120D	3/7/22	7/28/22
C3M0160120J	3/7/22	7/28/22
C3M0350120D	9/28/22	10/28/22
C3M0350120J	9/28/22	10/28/22

Contact Information

If you have any questions regarding this Informational PCN, please refer to the contact information listed in Table 3.

Table 3. PCN Contact.

Wolfspeed Contact	PCN Administrator
Wolfspeed Contact E-Mail	PCN@wolfspeed.com
Address	4600 Silicon Drive Durham, NC 27703 U.S.A.

Revision History

Date	Revision	Description
June 15, 2021	0 (CREE-PCN-1306)	Initial release
August 6, 2021	1 (CREE-PCN-1320)	Updated Table 2 due to the qualification completed on C3M0040120D and C3M0040120K and the progress made on other parts; updated the sections of “Description of the Change” and “Anticipated Impact”.

January 21, 2022	2 (CREE-PCN-1362)	Updated Table 2 due to the qualification to be completed on C3M0016120D and C3M0016120K
July 11, 2022	3 (PCN-00019)	Updated Table 2 to add C3M0160120D and C3M0160120J qualification report availability on 3/7/22 and first ship date as 7/28/22; C3M0350120D and C3M0350120J qualification report availability on 9/28/22 and first ship date as 10/28/22.