

Cree® Product Change Notification

PCN Number:	CREE-PCN-1227	Date Issued:	December 15, 2020
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Title

Multi-fab manufacturing of Gen3 1200 V SiC MOSFET devices utilizing RTP and Durham (DUR) facilities.

Description of the Change

Cree’s third-generation (Gen3) 1200 V Silicon Carbide (SiC) MOSFETs, known as “C3M”, are currently being manufactured on 150-mm wafers at Cree’s fabrication facility in RTP, North Carolina, USA. To meet its delivery commitment to customers in dynamic market conditions, Cree is also going to utilize the capacity at its fabrication facility in Durham (DUR), North Carolina, USA for the C3M product family. In other words, the affected parts will be processed at either the RTP or DUR facility (4.5 km apart) and may be transferred between both facilities during their fabrication process. Note that all tools of both facilities with the exception of the furnaces 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

The qualification of multi-fab manufacturing between RTP and DUR is part of the ongoing efforts undertaken at Cree to increase loading capacity and enhance manufacturing flexibility. The ultimate goal is to ensure Cree’s continued ability to provide quality products that meet and exceed customer expectations.

Affected Products

Table 1 lists the products affected by this major change. Any new parts introduced after the publication of this PCN will include multi-fab manufacturing and have multi-factory-suffix part numbers.

Table 1. Affected Products List.

Gen3 1200V Family Core Part Numbers	Current Part Number Ordering Suffix	Multi-Fab Part Number Ordering Suffix
CPM3-1200-0021A	CPM3-1200-0021A-FE6	CPM3-1200-0021A-FY6*
	CPM3-1200-0021A-WD6	CPM3-1200-0021A-WX6*
CPM3-1200-0032A	CPM3-1200-0032A-FE6	CPM3-1200-0032A-FY6
	CPM3-1200-0032A-WD6	CPM3-1200-0032A-WX6
CPM3-1200-0075A	CPM3-1200-0075A-FE6	CPM3-1200-0075A-FY6
	CPM3-1200-0075A-WD6	CPM3-1200-0075A-WX6

*FY6 - UV tape black frame; WX6 - waffle pack.

Qualification Status and Plan

Upon completion of its qualification, Cree will deliver a qualification report and any requested samples. All processes will be qualified through the internal Process Change Review Board (PCRB). Cree will assume the approval from its customers if no feedback is received from the customers within 60 days from the date the qualification report is issued.

Key Dates

Table 2 provides the estimated 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 Cree contact listed in Table 3.

Table 2. Key PCN Estimated Dates.

Qualification Report Availability	December 18, 2020
Sample Availability	January 2021
Proposed First Ship Date for Multi-Fab Manufactured Products	February 26, 2021
Last Order Date for Products Fabricated at RTP	February 26, 2021

Anticipated Impact

There will be no change on the form, fit, or function on the die. It should be noted that the additional DUR manufacturing facility is a Class 100 (ISO 5) cleanroom certified to ISO9001 and IATF16949:2016 standards and has been a fully-functional Cree-owned semiconductor manufacturing facility in operation for more than 20 years.

The part numbers used by customers to order sawn wafers manufactured in the expanded DUR facility will change. The 150-mm wafers manufactured at the current RTP facility are ordered using core 13-character part numbers plus the suffix “-FE6” or “-WD6”, depending on the carrier used for bare die. Moving forward, all devices will have the multi-factory suffix, “-FY6” or “-WX6”. Please refer to Table 1 for the suffix information.

Product Traceability

Cree maintains its product traceability at the wafer level, including the fabrication location of each process step.

Contact Information

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

Table 3. PCN Contact.

Cree Contact:	Mingyuan Zhao
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Cree Contact Phone:	(919) 407-4376
Cree Contact Fax Number:	
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Revision History

Date	Revision	Revision Summary
December 15, 2020	1.0	Initial release
January 7, 2021	2.0	Updated Table 2 <i>Key PCN Estimated Dates</i>