

Cree® Product Change Notification

PCN Number: CREE-PCN-1334

Date Issued:

September 20, 2021

Title

Change from 100-mm to 150-mm Wafers for the Manufacturing of 900 V SiC MOSFET Discrete Devices

Description of the Change

Cree's third-generation 900 V MOSFETS, also known as "C3M™", are currently manufactured on 100-mm diameter SiC wafers at Cree's fabrication facility in RTP, North Carolina, USA. A change of the wafer diameter from 100 mm to 150 mm is planned to increase Cree's production capacity to ensure that Cree can continuously provide MOSFETs to its customers within the standard delivery time. MOSFET devices based on 150-mm wafers are manufactured at the same facility that is currently qualified for 100-mm wafers.

Along with the change to 150-mm wafers, Cree's production line is being expanded to include an additional manufacturing capability. The back-metal stack for MOSFETs will be changed from silver (Ag) to gold (Au). There is no change to die or gate pad dimension as a result of this transition.

Benefit of the Change

The qualification of 150-mm wafers in MOSFET devices manufacturing is necessary for Cree to increase its production capacity to meet market demand and customer expectation. The change to gold (Au) back-metal stack will improve the ability of MOSFET devices to withstand harsh environments.

Affected Products

Table 1 lists the products affected by the change of this Major notification. Any new parts introduced after the publication of this PCN will be based on 150-mm SiC wafers.

Table 1. Affected Products.

Cree Part Number	Description	Previous Datasheet Rev.	New Datasheet Rev.
C3M0280090D	900 V, 280 mΩ SiC MOSFET	Rev. A (03-2017)	Rev. 2 (09-2021)
C3M0280090J	900 V, 280 mΩ SiC MOSFET	Rev. A (01-2018)	Rev. 2 (09-2021)

Qualification Status and Plan

Cree can provide a qualification report upon request. Please note that Cree will no longer accept any orders for 100-mm version of this device.

Key Implementation Dates

The qualification report for the affected part, C3M0280090D and C3M0280090J, has been completed. Therefore, both parts can be sampled, ordered, and/or shipped at this point.

Anticipated Impact

Along with the release of this PCN, an update to the existing product datasheets is included as outlined in Table 1. The new datasheets provide customers with a comprehensive list of dynamic and static behavior of the devices and utilize the latest advance in characterization test equipment. There is no change to any Min/Max specifications; however, the datasheets contain all new graphs with the updated typical values.

The base ordering part numbers will not change. Customers can continue to place orders using the same part number. Qualification activities were performed to determine the impact to the products listed in Table 1.

Contact Information

If you have any questions regarding this PCN, please refer to the contact information listed in Table 2.

Table 2. Contact Information.

Cree Contact:	CREE Customer Service
Cree Contact E-Mail:	Csorder_admin@cree.com
Address:	4600 Silicon Drive Durham, NC 27703 U.S.A.

Revision History

Date	Revision	Description
September 20, 2021	0	Initial release