

Cree® Advance Notice of Product Change Notification

PCN Reference Number: CREE-PCN-1042

Date Issued: 9/25/2020

Please be advised of Cree's intention to qualify its 62 mm and 45 mm power module portfolio using bare die from its 150 mm fabrication facility. This advanced notice is to inform customers of the upcoming change to power module parts.

Please review the additional PCN information below.

Affected Product

Table 1 provides a list of products affected by this change:

Table 1: Affected Products List

Cree Part Numbers
CAS110M12BM2
CAS120M12BM2
CAS300M12BM2
CAS300M17BM2
CCS020M12CM2
CCS050M12CM2

Description of the Change

Cree's 2nd generation MOSFETS, also known as "C2M™", and Cree's CPW Schottky Diodes are currently manufactured on 100 mm diameter wafers at Cree's fabrication facility in North Carolina, USA. A change of wafer diameter from 100 mm to 150 mm is planned to increase production capacity and to ensure Cree's continued ability to provide MOSFETs and Diodes to our customers within our standard delivery times.

Along with the change to 150 mm wafers, the production line is being expanded to include additional manufacturing capability at Cree's fabrication facilities in North Carolina, US. The back-metal stack for MOSFETs used in the parts identified in Table 1 will change from silver (Ag) to gold (Au). There is no change to die or gate pad dimension as a result of this transition. The change to gold (Au) back metal improves the ability to withstand harsh environments. The current 5th generation Schottky diode will be replaced with the 6th generation Schottky diode as part of the 150mm transition.

No change to the module design is expected as a result of this die transition.

Reason for the Change

Cree continues to increase production capacity and improve manufacturability. This change is necessary to ensure Cree's continued ability to provide modules within our standard delivery times.

Impact of Change

There is no expected change to reliability of the bare die devices, as a result of this change. It should be noted that the 150mm wafer substrates are manufactured in the expanded manufacturing facilities and by the same manufacturer as the currently qualified 100mm substrates. Along with the release of the PCN, new datasheets will be published for the product numbers to update legacy performance information. The new datasheets will provide customers with a more accurate dynamic and static behavior of the devices and utilize the latest advances in characterization test equipment. More guidance will be provided on the expected performance impact of the transition, when the PCN is released.

Modules will go through re-qualification using new devices from the 150mm line.

Effective Implementation Date

- Last time buy for modules with 100mm die modules will be 90 days from date of the advance notice. Due to limited quantities of modules with 100mm, Cree reserves the right to limit quantities ordered.
- Spring 2021: Cree targets a PCN covering the 150 mm transition on the listed modules in Table 1. Module samples will be available for customer evaluation.
- Summer 2021: Cree targets ramp production of modules with 150 mm die.

Please note this schedule is tentative and subject to change, as this is an advanced notification of the upcoming change. Modules listed in Table 1 will be broken into separate final PCN notifications, as they are available.

Please respond to this advanced PCN by indicating any requests for last time buy by October 25, 2020. Lack of acknowledgement and registration of last time buy requests within 30 days constitutes acceptance of the change without any last time buy requirements.

Cree Wolfspeed Contact Information

If you have any questions regarding this advanced notice of PCN, please contact:

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