

Cree® Courtesy Product Change Notification

PCN Reference Number: CREE-PCN-1218

Date Issued: 12/01/2020

Please be advised that Cree has qualified its CAS120M12BM2 power module using bare die from its 150 mm wafer fabrication facility. This notice is to inform customers that future deliveries of this product will include modules with die qualified from its 150mm production line.

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
CAS120M12BM2

Description of the Change

Cree's 2nd generation MOSFETS, also known as "C2M™", and Cree's CPW Schottky Diodes have been 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 Schottky diode in this module remains a 4th generation diode with no change to die dimension, now produced on a 150 mm wafer.

There is no change to the module design as a result of this wafer size 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 change to reliability of the bare die devices, as a result of this change. It should be noted that the 150 mm wafer substrates are manufactured in the expanded manufacturing facilities and by the same manufacturer as the currently qualified 100 mm substrates. Both the 150 mm bare die devices and the module independently passed re-qualification to the same industrial standard used to qualify the 100 mm bare die and module for commercial release.

Along with the release of the PCN, a new datasheet has been published for the product in Table 1 to update legacy performance information. The new datasheet provides customers with a more accurate dynamic and static behavior of the devices utilizing the latest advances in characterization test equipment. The overall performance is proven to be the same as the 100 mm -based module or slightly improved. Laboratory tests demonstrate faster switching dynamics and small adjustments of external driver R_g may be needed, depending on the customer's individual system implementation. Leakage current was adjusted, from a previous published error on the datasheet.

Effective Implementation Date

Beginning on the issue date of this PCN, Cree may begin shipment of CAS120M12BM2 commercial product using die produced on 150 mm wafer substrates. The 100 mm last time buy registration window is closed, per Advanced PCN 1042 issued September 25, 2020.

Cree Wolfspeed Contact Information

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

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