

Cree, Inc. Product Change Notification

PCN-PW060: Change of Wafer Diameter from 100mm to 150mm for All Schottky Diode Products

Change

Cree is completing the qualification of SiC Schottky diodes manufactured on 150mm wafers at its Durham, North Carolina, USA facility. Starting in calendar Q3 of 2017, Cree will begin the transition of catalog bare die and discrete packaged Schottky diodes to production on 150mm wafers. The purpose of this PCN is to notify customers of the successful qualification, so they may implement their own qualification plan as necessary and notify Cree of any sample requirements to satisfy their internal qualification/validation activity.

Change Description

Qualified Cree SiC Schottky Diodes are currently manufactured on 100mm diameter wafers at Cree's fabrication facility in Durham, North Carolina, USA. The change from manufacturing on 100mm wafer to 150mm is under qualification. Subsequently, upon qualification, Cree will begin transitioning Schottky diode wafer manufacturing to the qualified 150mm production line. This change will increase Cree's production capacity and will ensure Cree's continued ability to provide diodes to our customers within our standard delivery times.

Note that Cree will not mix the source wafer size within individual builds of packaged discrete devices. Each packaged device date code will only be sourced from either 100mm or 150mm wafers, but not both. However, device shipments to distributors and customers may contain a mix of date codes, and therefore these shipments may also contain a mix of 100mm and 150mm sourced date codes. Traceability to wafer diameter will be maintained by Cree. Refer to Table 1 for specific transition dates by product family.

Shipments to customers of sawn 150mm wafers on tape are scheduled to begin September 2017, to coincide with Cree's transition to the new wafer delivery platform (refer to Cree PCN-PW061). After this date, shipments to customers of sawn wafers on tape will contain a mix of 150mm and 100mm wafers.

Part Description

All catalog bare die and discrete packaged parts within standard diode product families will be transitioned. Cree "standard" Schottky diode bare die products are defined as the CPWR, CPW2, CPW3, CPW4, and CPW5 product families. Cree "standard" Schottky diode discrete packaged products are defined as the CSD, C2D, C3D, C4D, C5D, and CVFD product families. Refer to Table 2 for a full list of part numbers.

Impact of Change

The impact of the change is wafer geometry only. There is no change to form, fit, function, or reliability of the diode. This change impacts the diode chip only; no changes are being made to the backend assembly processes, and therefore the diode package is not impacted. It should be noted that the 150mm wafer substrates are manufactured in the same facility and by the same manufacturer as the currently qualified 100mm substrates located in Durham, North Carolina, USA. It should also be noted that the 150mm Schottky diode manufacturing line will be located in the same facility as the currently qualified 100mm Schottky diode manufacturing line located in Research Triangle Park, North Carolina, USA. Products manufactured on 100mm wafers and 150mm wafers will have identical specifications and markings. Part numbers will not change. Customers may continue to place orders using the same part numbers.

Reason for Change

The reason for this change is to increase production capacity and to ensure Cree's continued ability to provide diodes to our customers within our standard delivery times.

Qualification Plan

All parts will be qualified to all tests listed in the existing 100mm qualification reports for each respective part number. All tests will be performed to parameters that meet or exceed the test parameters listed in the original 100mm qualification report.

Effective Implementation Date

Beginning in calendar Q3 of 2017, Cree will begin the transition of catalog bare die and discrete packaged Schottky diodes to production on 150mm wafers. Schottky diodes from 100mm and 150mm will be mixed from that time forward. Refer to Table 1 for specific transition dates by product family.

Please respond to this PCN by indicating your approval on the included approval form at the end of this PCN, sign it and return to your local sales representative by May 28, 2017 [issue date plus 30 days]. If you have any concerns or questions, please notify your local sales representative. In accordance with JEDEC Standard JESD46D, lack of acknowledgement of the PCN within 30 days constitutes acceptance of the change.

Engineering samples are available immediately. Qualified samples will be available beginning in June 2017, pending the completion of the qualification. Samples can be requested through the form at the end of this PCN.

Contact

Any questions or requests for additional information should be directed to your sales representative or by contacting Cree, Inc. directly at 919-287-7888, or via email at CreePower_sales@cree.com.

PCN Originator:
Name: Barbieri, T.
Title: Product Marketing Engineer, Cree Power Devices
Issued: 04/28/2017

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Disclaimer:

If we do not receive any response by the date in the PCN above we consider this as the acceptance of the PCN.

Table 1: Commencement Dates for 150mm Conversion by Diode Product Family

Part Number Begins With:	150mm Transition Begins:
CSD	July 2017
CPWR	September 2017
C2D	2018
CPW2 (600V/650V)	September 2017
CPW2 (1200V)	2018
C3D (600V/650V)	July 2017
CPW3 (600V/650V)	September 2017
C3D (1700V)	2018
CPW3 (1700V)	2018
C4D	August 2017
CPW4	September 2017
C5D	Q4 2017
CPW5	Q4 2017
CVFD	Q4 2017

Table 2: Cree Schottky Diode Part Numbers Included in 150mm Conversion

CSD01060A	C3D12065A	CPW2-1200-S010B-FR1
CSD01060E	C3D16060D	CPW2-1200-S010BP
CSD01060E-TR	C3D16065A	CPW2-1200-S010B-SK
C2D05120A	C3D16065D	CPW2-1200-S050B
C2D05120E	C3D1P7060Q	CPW3-0600-S002B
C2D05120E-TR	C3D20060D	CPW3-0600-S003B
C2D10120A	C3D20065D	CPW3-0600-S004B
C2D10120D	C3D25170H	CPW3-0600-S01P7B
C2D20120D	C3D30065D	CPW3-0650-S002B
C3D02060A	C4D02120A	CPW3-0650-S003B
C3D02060E	C4D02120E	CPW3-0650-S004B
C3D02060E-TR	C4D02120E-TR	CPW3-1700-S010B
C3D02060F	C4D05120A	CPW3-1700-S025B
C3D02065E	C4D05120E	CPW3-1700-S025B-FR1
C3D02065E-TR	C4D05120E-TR	CPW4-1200-S002B
C3D03060A	C4D08120A	CPW4-1200-S002B-FR1
C3D03060E	C4D08120E	CPW4-1200-S005B
C3D03060E-TR	C4D08120E-TR	CPW4-1200-S005B-FM1
C3D03060F	C4D10120A	CPW4-1200-S005B-FR1
C3D03065E	C4D10120D	CPW4-1200-S005B-FR3
C3D04060A	C4D10120E	CPW4-1200-S008B
C3D04060E	C4D10120E-TR	CPW4-1200-S008B-FR1
C3D04060E-TR	C4D15120A	CPW4-1200-S010B
C3D04060F	C4D15120D	CPW4-1200-S010B-FM1
C3D04065A	C4D20120A	CPW4-1200-S010B-FR1
C3D04065E	C4D20120D	CPW4-1200-S010B-FR3
C3D06060A	C4D30120D	CPW4-1200-S015B
C3D06060F	C4D40120D	CPW4-1200-S015B-FR1
C3D06060G	C5D30065D	CPW4-1200-S020B
C3D06060G-TR	C5D50065D	CPW4-1200-S020B-FR1
C3D06065A	CVFD20065A	CPW5-0650-Z030B
C3D06065E	CPW2-0600-S006B	CPW5-0650-Z030B-FR1
C3D06065E-TR	CPW2-0600-S006B-FR1	CPW5-0650-Z050B
C3D06065I	CPW2-0600-S006B-FR3	CPW5-0650-Z050B-FR1
C3D08060A	CPW2-0600-S008B	CPW5-1200-Z050A
C3D08060F	CPW2-0600-S008B-FR1	CPW5-1200-Z050B
C3D08060G	CPW2-0600-S010B	CPW5-1200-Z050B-FR1
C3D08060G-TR	CPW2-0600-S010B-FR1	CPW5-1700-Z050B
C3D08065A	CPW2-0600-S010B-SK	CPW5-1700-Z050B-FR1
C3D08065E	CPW2-0650-S006B	CPWR-0300-S010B
C3D08065E-TR	CPW2-0650-S008B	CPWR-0600-S001B
C3D08065I	CPW2-0650-S010B	CPWR-0600-S002B
C3D10060A	CPW2-0650-S010B-FR1	CPWR-0600-S004B
C3D10060G	CPW2-0650-S012B	CPWR-0600-S006B
C3D10060G-TR	CPW2-0650-S012B-FR1	CPWR-0600-S008B
C3D10065A	CPW2-0650-S016B	CPWR-0600-S010B
C3D10065E	CPW2-0650-S016B-FR1	CPWR-0600-S010B-SK
C3D10065E-TR	CPW2-1200-S005B	CPWR-0600-S010C
C3D10065I	CPW2-1200-S005B-FR1	CPWR-1200-S005B
C3D10170H	CPW2-1200-S010B	CPWR-1200-S010B

PCN-PW060 CUSTOMER APPROVAL FORM

Change of Wafer Diameter from 100mm to 150mm for All Schottky Diode Products

Please list product(s) affected in your application(s)

Please check the appropriate boxes below:

We agree with this proposed change and its schedule

We need more information:

We need samples:

Engineering

Qualified

Sender

Company:

Address/Location:

Name:

Email:

Primary Telephone:

Signature:

Fax:

Date:

Please return to your Sales Representative

Company: Cree

Address/Location:

Name:

Email:

Primary Telephone:

Fax: