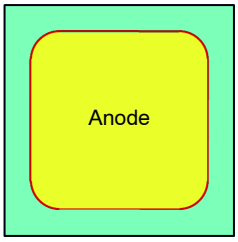
Silicon Carbide (SiC) Schottky Diode – EliteSiC, 20 A, 650 V, D1, Die

PCFFS2065AF



Description

Silicon Carbide (SiC) Schottky Diodes use a completely new technology that provides superior switching performance and higher reliability compared to Silicon. No reverse recovery current, temperature dependent switching characteristics, and excellent thermal performance sets Silicon Carbide as the next generation of power semiconductor. System benefits include highest efficiency, faster operation frequency, increased power density, reduced EMI, and reduced system size and cost.

Features

- Max Junction Temperature 175°C
- Avalanche Rated 95 mJ
- High Surge Current Capacity
- Positive Temperature Coefficient
- Ease of Paralleling
- No Reverse Recovery/No Forward Recovery

Applications

- General Purpose
- SMPS, Solar Inverter, UPS
- Power Switching Circuits

For Additional Product Information and Electrical Characteristics on Package

Refer to FFSP2065A product datasheet.

Die Information

- Wafer Diameter: 6 inch
- Die Size: 2,240 × 2,240 μm (include Scribe Lane)
- Metallization:
  - Top: Ti/TiN/AlCu 4 μm
  - Back: Ti/NiV/Ag
- Die Thickness: Typ. 200 μm
- Bonding Pad Size:
  - Anode: 1,880 × 1,880 μm
- Recommended Wire Bond*
  - Anode: 15mil × 2

*Based on TO−220 package of **onsemi**

ELECTRICAL CHARACTERISTICS ON WAFER (T_C = 25°C unless otherwise noted) (Note 1)

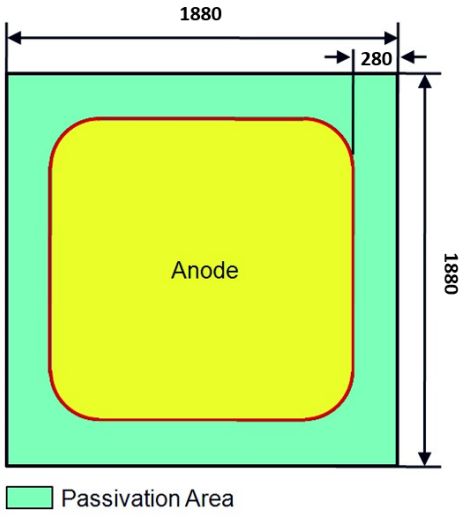
Symbol	Parameter	Test Conditions	Min	Typ	Max	Unit
V_R	Reverse Blocking Voltage	I_R = 200 μA, T_C = 25°C	650	–	–	V
V_F	Forward Voltage	I_F = 20 A, T_C = 25°C	1.20	–	1.75	V
I_R	Reverse Current	V_R = 650 V, T_C = 25°C	–	–	200	μA

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

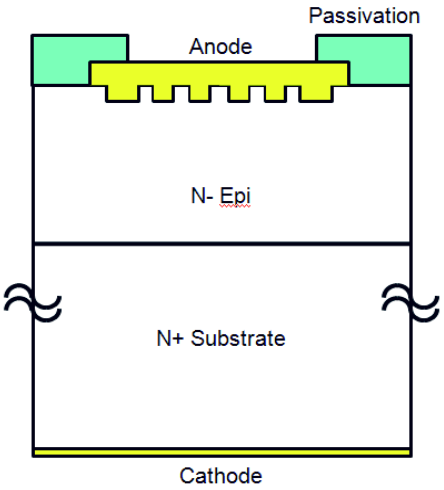
1. Tested 100% on wafer

Die Layout

(Dimension: μm, except Scribe Lane)



Cross Selection

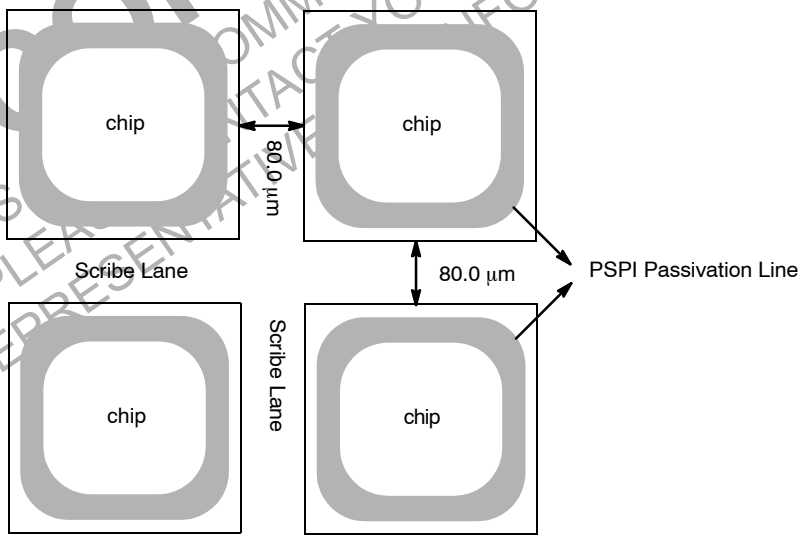


Passivation Information

- Passivation Material: Polymide (PSPI)
- Passivation Type: Local Passivation
- Passivation Thickness: 90KA

The Configuration of Chips

(Based on 6 inch Wafer)



Sawn−on−film frame packing based on tested wafer

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support
For additional information, please contact your local Sales Representative at www.onsemi.com/support/sales