

Silicon Carbide (SiC) Schottky Diode - EliteSiC, 15 A, 1200 V, D1, Die

PCFFS15120AF

Description

Silicon Carbide (SiC) Schottky Diode has no switching loss, provides improved system efficiency against Si diodes by utilizing new semiconductor material – Silicon Carbide, enables higher operating frequency, and helps increasing power density and reduction of system size/cost. Its high reliability ensures robust operation during surge or over-voltage conditions.

Features

- Max Junction Temperature 175°C
- Avalanche Rated 145 mJ
- High Surge Current Capacity
- Positive Temperature Coefficient
- Ease of Paralleling
- No Reverse Recovery / No Forward Recovery

Applications

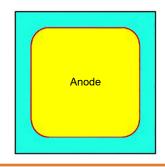
- General Purpose
- SMPS, Solar Inverter, UPS
- Power Switching Circuits

Die Information

- Wafer Diameter: 6 inch
- Die Size: 2,730 × 2,730 μm (Include Scribe Lane)
- Metallization
 - Top: Ti / TiN / AI 4 μmBack: Ti/ NiV / Ag
- Die Thickness: Typ. 200 μm
- Bonding Pad Size
 - Anode: 2150 × 2150 μm
- Recommended Wire Bond (Note 1)
 - ♦ Anode: 15 mil × 1

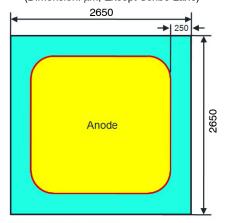
NOTE:

1. Based on TO-247 package of **onsemi**



DIE LAYOUT

(Dimension: um, Except Scribe Lane)

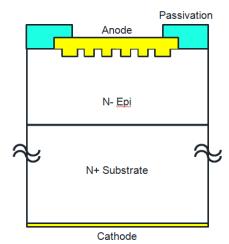


Passivation Area

Passivation Information

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

CROSS SECTION



ORDERING INFORMATION

Part Number	Package	Die Size	
PCFFS15120AF	N/A	2,730 × 2,730 μm (Include Scribe Lane)	

PCFFS15120AF

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

Symbol	Parameter	Test Condition	Min	Тур	Max	Unit
V_{R}	Reverse Blocking Voltage	$I_R = 200 \mu A, T_C = 25^{\circ}C$	1230	-	_	V
V _F	Forward Voltage	I _F = 15 A, T _C = 25°C	1.22	-	1.723	V
I _R	Reverse Current	V _R = 1230 V, T _C = 25°C	-	-	200	μΑ

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.

For Additional Product Information and Electrical Characteristics on Package

Refer to the FFSH30120ADN-F155 product datasheet.

The Configuration of Chips (Based on 6 Inch Wafer)

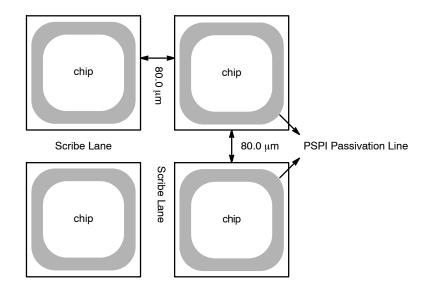


Figure 1. The Configuration of Chips (Based on 6 Inch Wafer)

^{2.} Tested 100% on wafer

^{3. -}F: sawn-on-film frame packing based on wafer tested

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 $\textbf{Technical Library:} \ \underline{www.onsemi.com/design/resources/technical-documentation}$

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