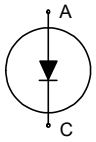
SIDC56D120F6

Fast switching diode chip in Emitter Controlled Technology

Features:
- 1200V technology 120 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient
- qualified according to JEDEC for target applications

Recommended for:
- power modules and discrete devices

Applications:
- SMPS, resonant applications, drives



Chip Type	V_R	I_{Fn}	Die Size	Package
SIDC56D120F6	1200V	75A	7.5 x 7.5 mm^2	sawn on foil

Mechanical Parameters

Die size		7.5 x 7.5	mm^2
Area total		56.25	
Anode pad size		6.78 x 6.78	
Thickness		120	µm
Wafer size		150	mm
Max. possible chips per wafer		248	
Passivation frontside		Photoimide	
Pad metal		3200 nm AlSiCu	
Backside metal		Ni Ag –system	
Die bond		Electrically conductive epoxy glue and soft solder	
Wire bond		Al, ≤500µm	
Reject ink dot size		∅ 0.65mm; max 1.2mm	
Storage environment	for original and sealed MBB bags	Ambient atmosphere air, Temperature 17°C – 25°C, < 6 month	
	for open MBB bags	Acc. to IEC62258-3: Atmosphere >99% Nitrogen or inert gas, Humidity <25%RH, Temperature 17°C – 25°C, < 6 month	

SIDC56D120F6

Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	T_{vj} = 25 °C	1200	V
Continuous forward current	I_F	T_{vj} < 150°C	[1)]	A
Maximum repetitive forward current[2)]	I_{FRM}	T_{vj} < 150°C	150	
Operating junction and storage temperature	T_{vj}, T_{stg}		-55...+150	°C

[1)] depending on thermal properties of assembly

[2)] not subject to production test - verified by design/characterisation

Static Characteristics (tested on wafer), T_{vj} = 25 °C

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	I_R	V_R=1200V			20	µA
Cathode-Anode breakdown Voltage	V_{BR}	I_R=0.25mA	1200			V
Forward voltage drop	V_F	I_F=75A	1.68	2.1	2.42	

Electrical Characteristics (not subject to production test - verified by design/characterization)

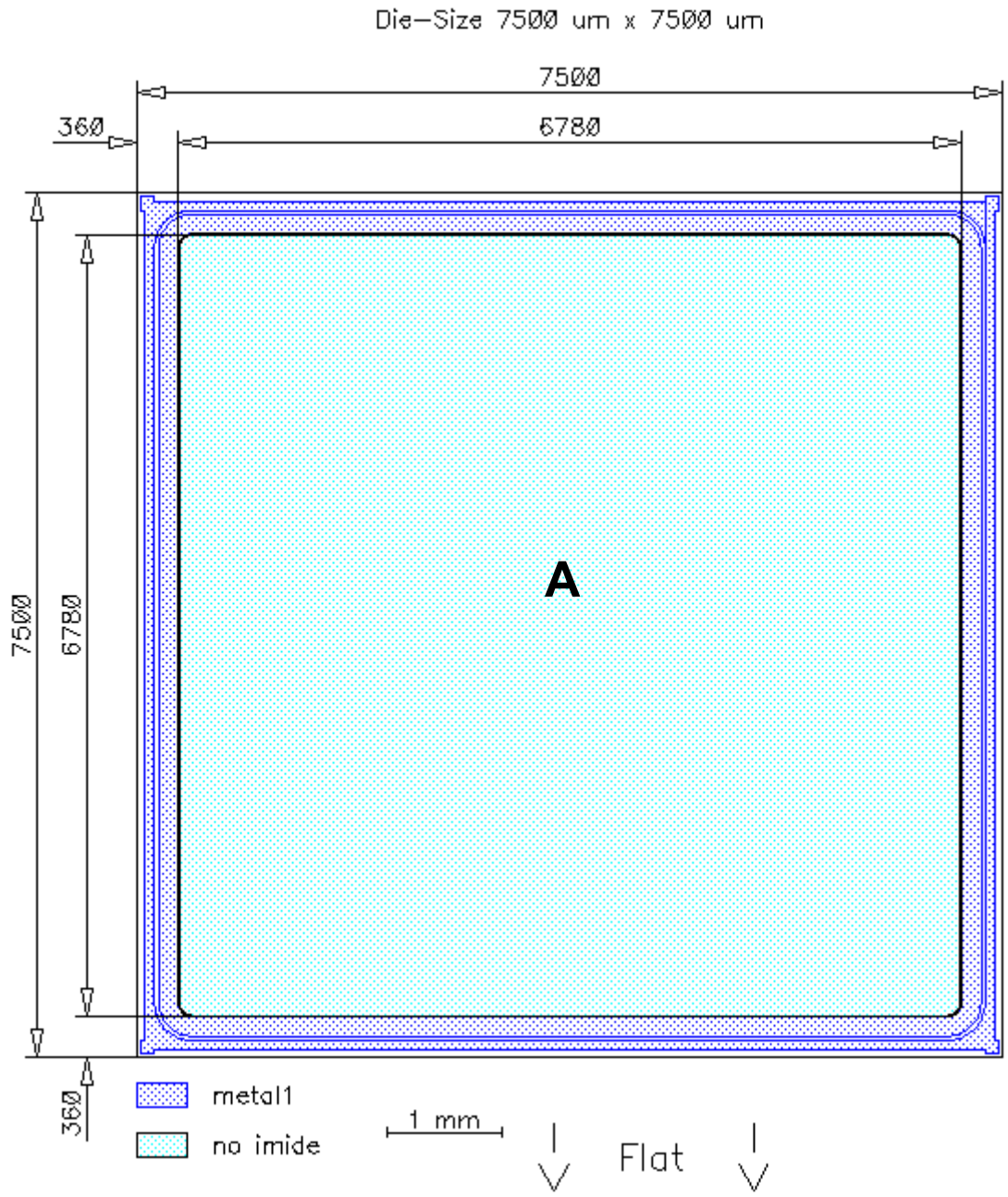
Parameter		Symbol	Conditions	Value			Unit
				min.	typ.	max.	
Forward voltage drop	T_{vj} = 125°C	V_F	I_F=75A		1.7		V

Further Electrical Characteristics

Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

This chip data sheet refers to the device data sheet	F4-75R12KS4_B11	Rev. 2.0

Chip Drawing



A: Anode pad

SIDC56D120F6

Description

AQL 0,65 for visual inspection according to failure catalogue

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Revision History

Version	Subjects (major changes since last revision)	Date

Published by
Infineon Technologies AG
81726 Munich, Germany

Legal Disclaimer

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics. With respect to any examples or hints given herein, any typical values stated herein and/or any information regarding the application of the device, Infineon Technologies hereby disclaims any and all warranties and liabilities of any kind, including without limitation, warranties of non-infringement of intellectual property rights of any third party.

Information

For further information on technology, delivery terms and conditions and prices, please contact the nearest Infineon Technologies Office (**www.infineon.com**).

Warnings

Due to technical requirements, components may contain dangerous substances. For information on the types in question, please contact the nearest Infineon Technologies Office.
The Infineon Technologies component described in this Data Sheet may be used in life-support devices or systems and/or automotive, aviation and aerospace applications or systems only with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support, automotive, aviation and aerospace device or system or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body or to support and/or maintain and sustain and/or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Edited by INFINEON Technologies, IPC TD VLS, L4225M, Rev. 1.2, 14.05.2013