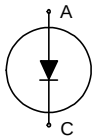
SIDC38D60C8

Fast switching diode chip in Emitter Controlled 3 -Technology

Features:
- 600V Emitter Controlled 3 technology 70 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:
- Power module

Applications:
- Drives



Chip Type	V_R	I_F	Die Size	Package
SIDC38D60C8	600V	150A	4.9 x 7.8 mm^2	sawn on foil

Mechanical Parameters

Raster size	4.9 x 7.8	mm^2
Area total	38.22	
Anode pad size	4.28 x 7.18	
Thickness	70	µm
Wafer size	200	mm
Max. possible chips per wafer	694	
Passivation frontside	Photoimide	
Pad metal	3200 nm AlSiCu	
Backside metal	Ni Ag –system suitable for epoxy and soft solder die bonding	
Die bond	Electrically conductive glue or solder	
Wire bond	Al, ≤500µm	
Reject ink dot size	∅ 0.65mm; max 1.2mm	
Recommended storage environment	Store in original container, in dry nitrogen, in dark environment, < 6 month at an ambient temperature of 23℃	

Edited by INFINEON Technologies, IMM PSD, L4030M, Edition 1.2, 08.07.10

Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	T_{vj} = 25 ℃	600	V
Continuous forward current	I_F	T_{vj} < 150℃	[1)]	A
Maximum repetitive forward current	I_{FRM}	T_{vj} < 150℃	300	
Junction temperature range	T_{vj}		-40...+175	°C
Operating junction temperature	T_{vj}		-40...+150	°C
Dynamic ruggedness[2)]	P_{max}	I_{Fmax} = 300A, V_{Rmax} = 600V, T_{vj} ≤ 150℃	tbd	kW

[1)] depending on thermal properties of assembly

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

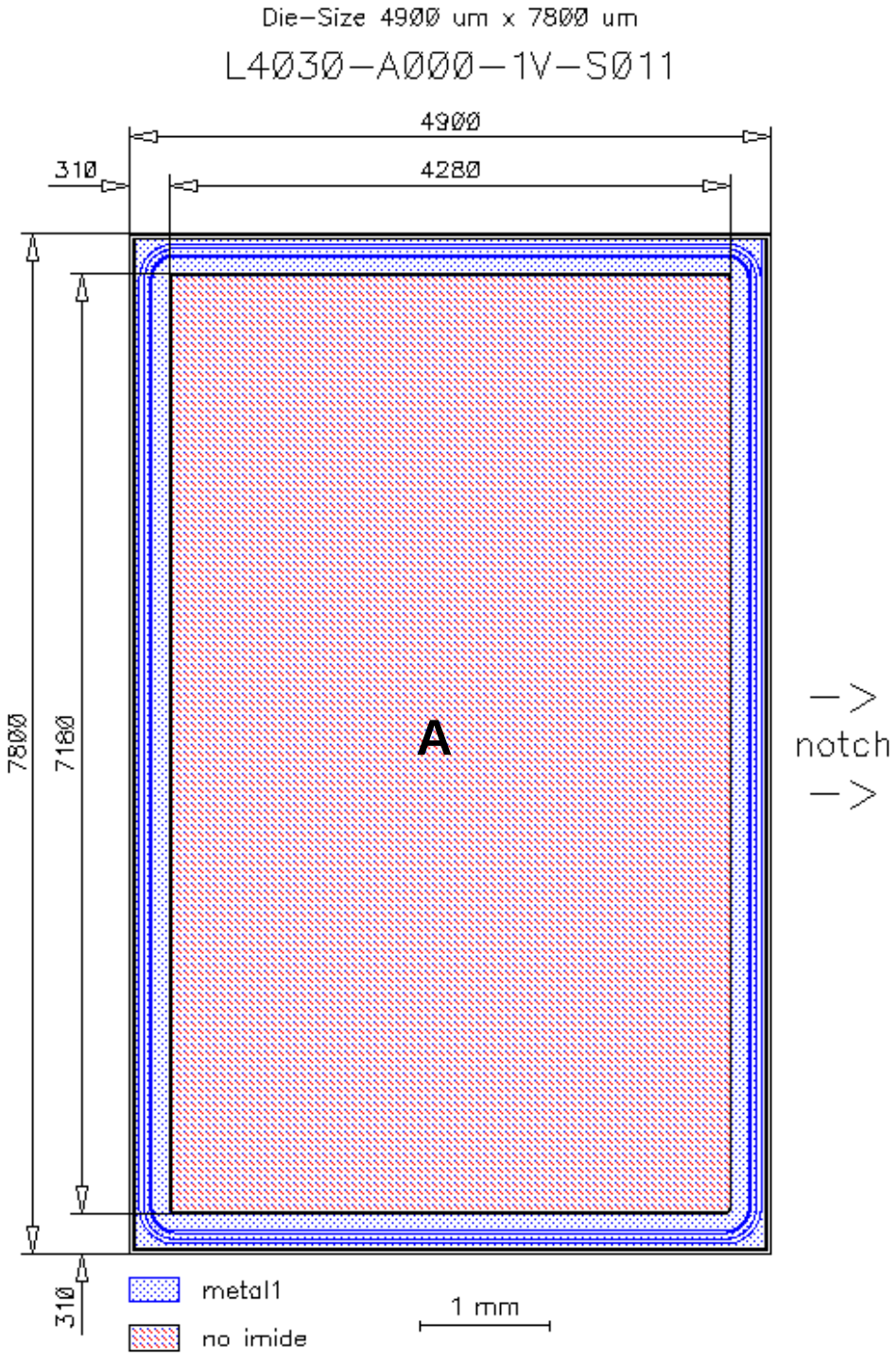
Static Characteristics (tested on wafer), T_{vj} = 25 ℃

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	I_R	V_R=600V			27	µA
Cathode-Anode breakdown Voltage	V_{BR}	I_R=0.25mA	600			V
Diode forward voltage	V_F	I_F=150A	1.2	1.6	1.9	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.

Chip Drawing



A: Anode pad

Edited by INFINEON Technologies, IMM PSD, L4030M, Edition 1.2, 08.07.10

SIDC38D60C8

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. Infineon Technologies components may be used in life-support devices 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 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, IMM PSD, L4030M, Edition 1.2, 08.07.10