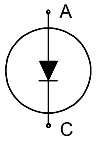
SIDC20D65C8

Fast switching diode chip in EMCON 3 -Technology

Features:
- 650V EMCON 3 technology 65 µm chip
- Soft, fast switching
- Low reverse recovery charge
- Small temperature coefficient
- Qualified according to JEDEC for target applications

Recommended for:
- Power module
- Discrete components

Applications:
- Drives
- White goods
- Resonant applications



Chip Type	V_R	I_{Fn} 1)	Die Size	Package
SIDC20D65C8	650V	75A	5.37 x 3.75 mm^2	sawn on foil

1) nominal forward current at Tc = 100°C, not subject to production test - verified by design/characterisation

Mechanical Parameters

Die size		5.37 x 3.75	mm^2
Area total		20.14	
Anode pad size		4.67 x 3.05	
Thickness		65	µm
Wafer size		200	mm
Max. possible chips per wafer		1354	
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	

Edited by INFINEON Technologies, IFAG IMM PSD D, L4026C, Edition 1.0, 12.09.2011

Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	T_{vj} = 25 °C	650	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 temperature	T_{vj}		-40...+175	°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=650V			0.9	µA
Cathode-Anode breakdown Voltage	V_{BR}	I_R=0.25mA	650			V
Forward voltage drop	V_F	I_F=75A	1.18	1.55	1.82	

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

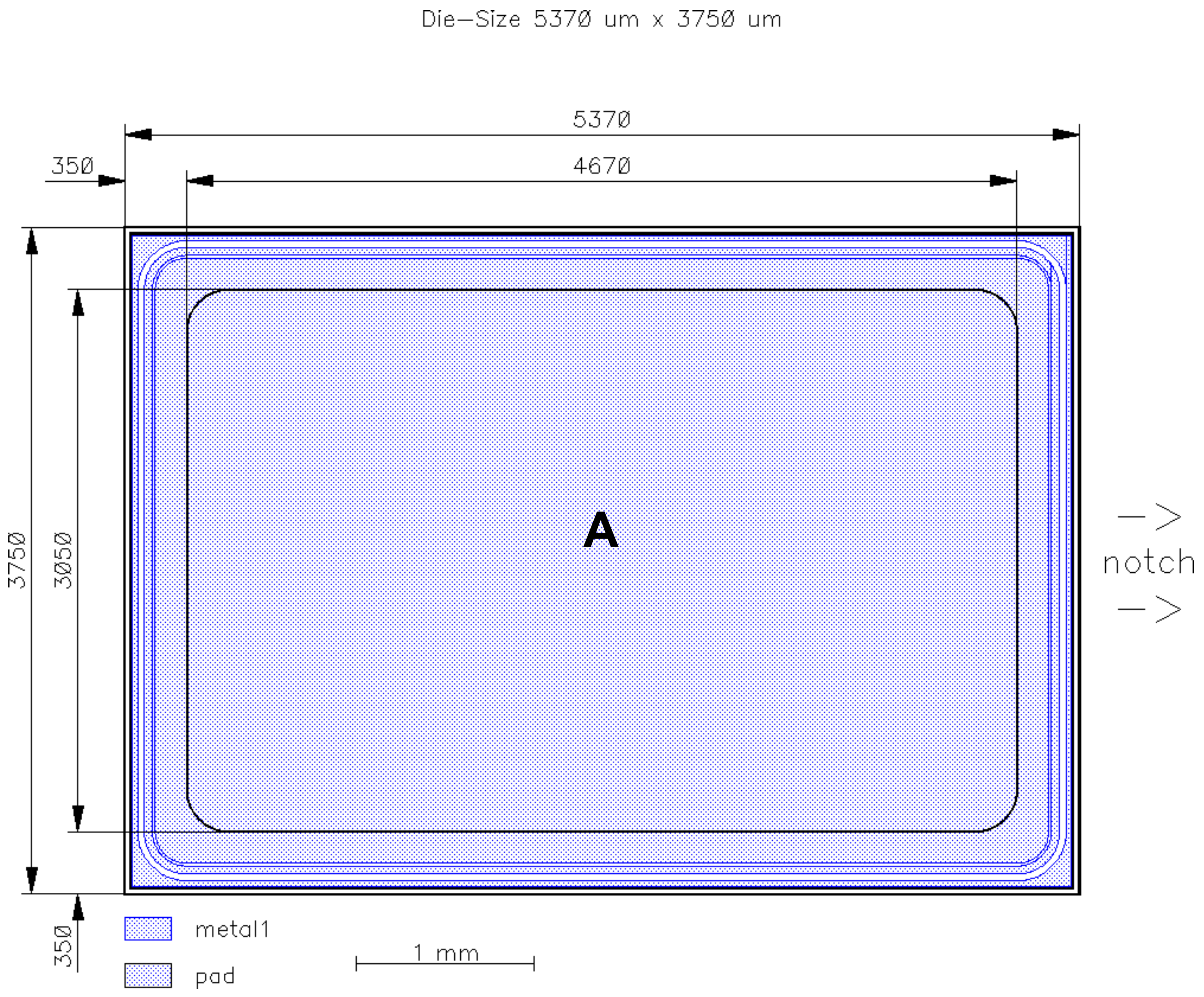
Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Forward voltage drop	V_F	I_F=75A, T_{vj} = 150°C		1.45		V

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	FS75R07N2E4_B11	Rev. 2.0

Chip Drawing



A: Anode pad

Edited by INFINEON Technologies, IFAG IMM PSD D, L4026C, Edition 1.0, 12.09.2011

SIDC20D65C8

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, IFAG IMM PSD D, L4026C, Edition 1.0, 12.09.2011