

## Fast switching diode chip in Emitter Controlled Technology

### Features:

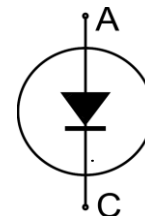
- 1200V Emitter Controlled technology  
120  $\mu\text{m}$  chip
- Soft, fast switching
- Low reverse recovery charge
- Small temperature coefficient
- Qualified according to JEDEC for target applications

### Recommended for:

- Power modules and discrete devices

### Applications:

- SMPS, resonant applications, drives



Chip Type	$V_R$	$I_{Fn}$	Die Size	Package
SIDC42D120H8	1200V	75A	6.5 x 6.5 mm <sup>2</sup>	sawn on foil

### Mechanical Parameters

Die size	6.5 x 6.5	mm <sup>2</sup>
Area total	42.25	
Anode pad size	5.546 x 5.546	
Thickness	120	$\mu\text{m}$
Wafer size	200	mm
Max. possible chips per wafer	629	
Passivation frontside	Photoimide	
Pad metal	3200 nm AlSiCu	
Backside metal	Ni Ag – system To achieve a reliable solder connection it is strongly recommended not to consume the Ni layer completely during production process	
Die bond	Electrically conductive epoxy glue and soft solder	
Wire bond	Al, $\leq 500 \mu\text{m}$	
Reject ink dot size	$\varnothing 0.65 \text{ mm}$ ; max 1.2 mm	
Storage environment	for original and sealed MBB bags	Ambient atmosphere air, Temperature 17 °C – 25 °C, < 6 months
	for open MBB bags	Acc. to IEC62258-3: Atmosphere > 99% Nitrogen or inert gas, Humidity < 25% RH, Temperature 17 °C – 25 °C, < 6 months

## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$	$T_{vj} = 25\text{ °C}$	1200	V
Continuous forward current	$I_F$	$T_{vj} < 150\text{ °C}$	<sup>1)</sup>	A
Maximum repetitive forward current <sup>2)</sup>	$I_{FRM}$	$T_{vj} < 150\text{ °C}$	150	
Junction temperature range	$T_{vj}$		-40...+175	°C
Operating junction temperature	$T_{vj}$		-40...+150	°C

<sup>1)</sup> depending on thermal properties of assembly

<sup>2)</sup> not subject to production test - verified by design/characterisation

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

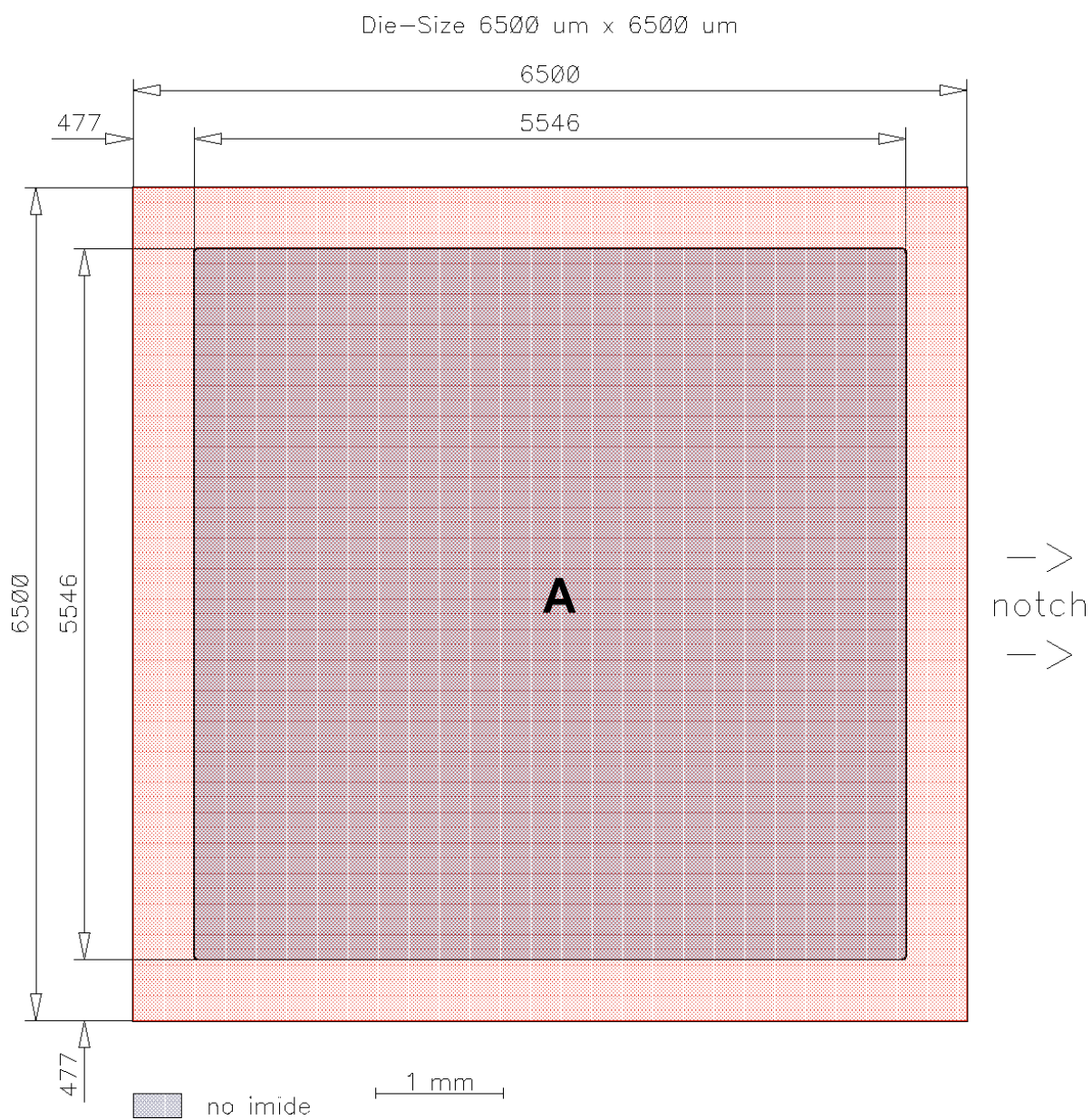
Parameter	Symbol	Condition	Value			Unit
			min.	typ.	max.	
Reverse leakage current	$I_R$	$V_R = 1200\text{V}$			27	μA
Cathode-Anode breakdown voltage	$V_{BR}$	$I_R = 0.25\text{ mA}$	1200			V
Forward voltage drop	$V_F$	$I_F = 75\text{A}$	1.23	1.6	1.97	

## 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	FS75R12KE3	Rev. 3.0, 03.09.2002
--	------------	----------------------

## Chip Drawing



A: Anode pad



# SIDC42D120H8

## Bare Die Product Specifics

Test coverage at wafer level cannot cover all application conditions. Therefore it is recommended to test all characteristics which are relevant for the application at package level, including RBSOA and SCSOA.

## Description

AQL 0.65 for visual inspection according to failure catalogue

Electrostatic Discharge Sensitive Device according to MIL-STD 883

## Revision History

Version	Subject (major changes since last revision)	Date
2.0	Final data sheet	30.12.2014
2.1	Editorial changes	14.10.2015



# SIDC42D120H8

---

**Published by**  
**Infineon Technologies AG**  
**81726 München, Germany**  
**© Infineon Technologies AG 2015.**  
**All Rights Reserved.**

## **IMPORTANT NOTICE**

The information given in this document shall in no event be regarded as a guarantee of conditions or characteristics ("Beschaffheitsgarantie"). With respect to any examples, hints or any typical values stated herein and/or any information regarding the application of the product, 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.

In addition, any information given in this document is subject to customer's compliance with its obligations stated in this document and any applicable legal requirements, norms and standards concerning customer's products and any use of the product of Infineon Technologies in customer's applications.

The data contained in this document is exclusively intended for technically trained staff. It is the responsibility of customer's technical departments to evaluate the suitability of the product for the intended application and the completeness of the product information given in this document with respect to such application.

For further information on the product, technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies office ([www.infineon.com](http://www.infineon.com)).

Please note that this product is not qualified according to the AEC Q100 or AEC Q101 documents of the Automotive Electronics Council.

## **WARNINGS**

Due to technical requirements products may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by Infineon Technologies in a written document signed by authorized representatives of Infineon Technologies, Infineon Technologies' products may not be used in any applications where a failure of the product or any consequences of the use thereof can reasonably be expected to result in personal injury.

单击下面可查看定价，库存，交付和生命周期等信息

[>>Infineon\(英飞凌\)](#)