



# SIDC14D120H8

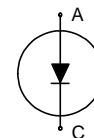
## Fast switching diode chip in Emitter Controlled Technology

### Features:

- 1200V 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
SIDC14D120H8	1200V	25A	3.8 x 3.8 mm <sup>2</sup>	sawn on foil

### Mechanical Parameters

Die size		3.8 x 3.8	mm <sup>2</sup>
Area total		14.44	
Anode pad size		3.08 x 3.08	
Thickness		120	$\mu\text{m}$
Wafer size		200	mm
Max. possible chips per wafer		1906	
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, $\leq 500\mu\text{m}$	
Reject ink dot size		$\varnothing 0.65\text{mm}$ ; 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	



# SIDC14D120H8

## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$	$T_{vj} = 25\text{ °C}$	1200	V
Continuous forward current	$I_F$	$T_{vj} < 150\text{ °C}$	1 <sup>1)</sup>	A
Maximum repetitive forward current <sup>2)</sup>	$I_{FRM}$	$T_{vj} < 150\text{ °C}$	50	
Junction temperature range	$T_{vj}$		-40...+175	°C
Operating junction temperature	$T_{vj}$		-40...+150	

<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	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	$I_R$	$V_R = 1200\text{ V}$			20	µA
Cathode-Anode breakdown Voltage	$V_{BR}$	$I_R = 0.25\text{ mA}$	1200			V
Forward voltage drop	$V_F$	$I_F = 25\text{ A}$	1.23	1.6	1.97	

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

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Forward voltage drop	$T_{vj} = 125\text{ °C}$ $V_F$	$I_F = 25\text{ A}$		1.65		V

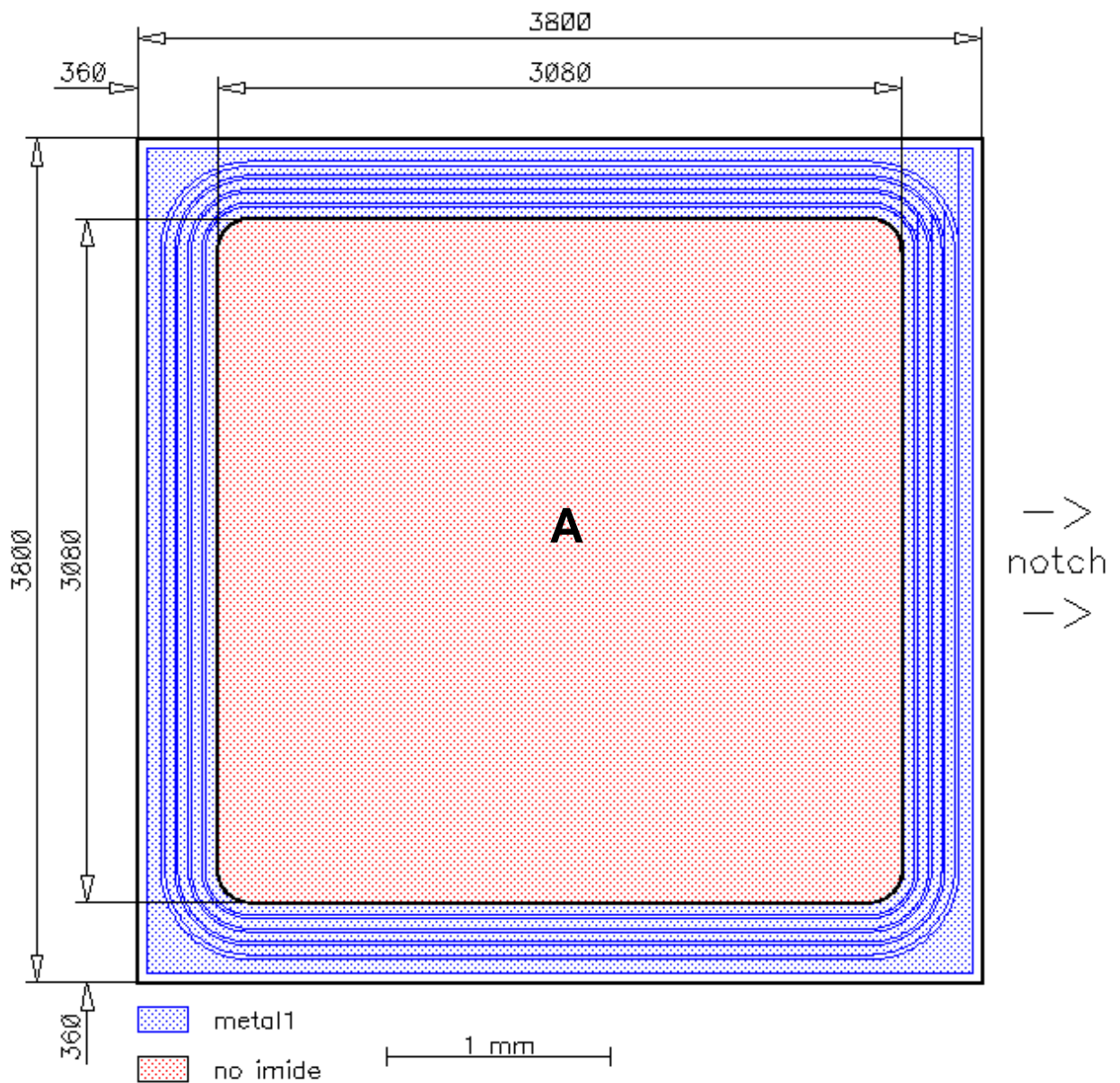
## Further Electrical Characteristics

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	FS25R12YT3	Rev. 2.0
--	------------	----------

## Chip Drawing

Die-Size 3800 um x 3800 um



A: Anode pad



# SIDC14D120H8

## 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
2.0	Final data sheet	26.10.2012
2.1	Operating junction temperature	15.05.2013

**Published by**  
**Infineon Technologies AG**  
**81726 Munich, Germany**  
**© 2013 Infineon Technologies AG**  
**All Rights Reserved.**

## 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](http://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.