

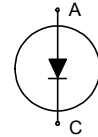
## Fast switching diode chip in EMCON 3 -Technology

### 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
SIDC02D65C8	650V	6A	1.4 x 1.65 mm <sup>2</sup>	sawn on foil

<sup>1)</sup> nominal forward current at  $T_c = 100^\circ\text{C}$ , not subject to production test - verified by design/characterisation

### Mechanical Parameters

Die size	1.4 x 1.65	mm <sup>2</sup>
Area total	2.31	
Anode pad size	0.97 x 1.22	
Thickness	65	µm
Wafer size	200	mm
Max. possible chips per wafer	12228	
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	Ø 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

## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$	$T_{vj} = 25\text{ °C}$	650	V
Continuous forward current	$I_F$	$T_{vj} < 150\text{ °C}$	1 <sup>1)</sup>	A
Maximum repetitive forward current <sup>2)</sup>	$I_{FRM}$	$T_{vj} < 150\text{ °C}$	12	
Operating junction temperature	$T_{vj}$		-40...+175	°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	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	$I_R$	$V_R = 650\text{ V}$			0.1	µA
Cathode-Anode breakdown Voltage	$V_{BR}$	$I_R = 0.25\text{ mA}$	650			V
Forward voltage drop	$V_F$	$I_F = 6\text{ A}$	1.23	1.55	1.87	

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

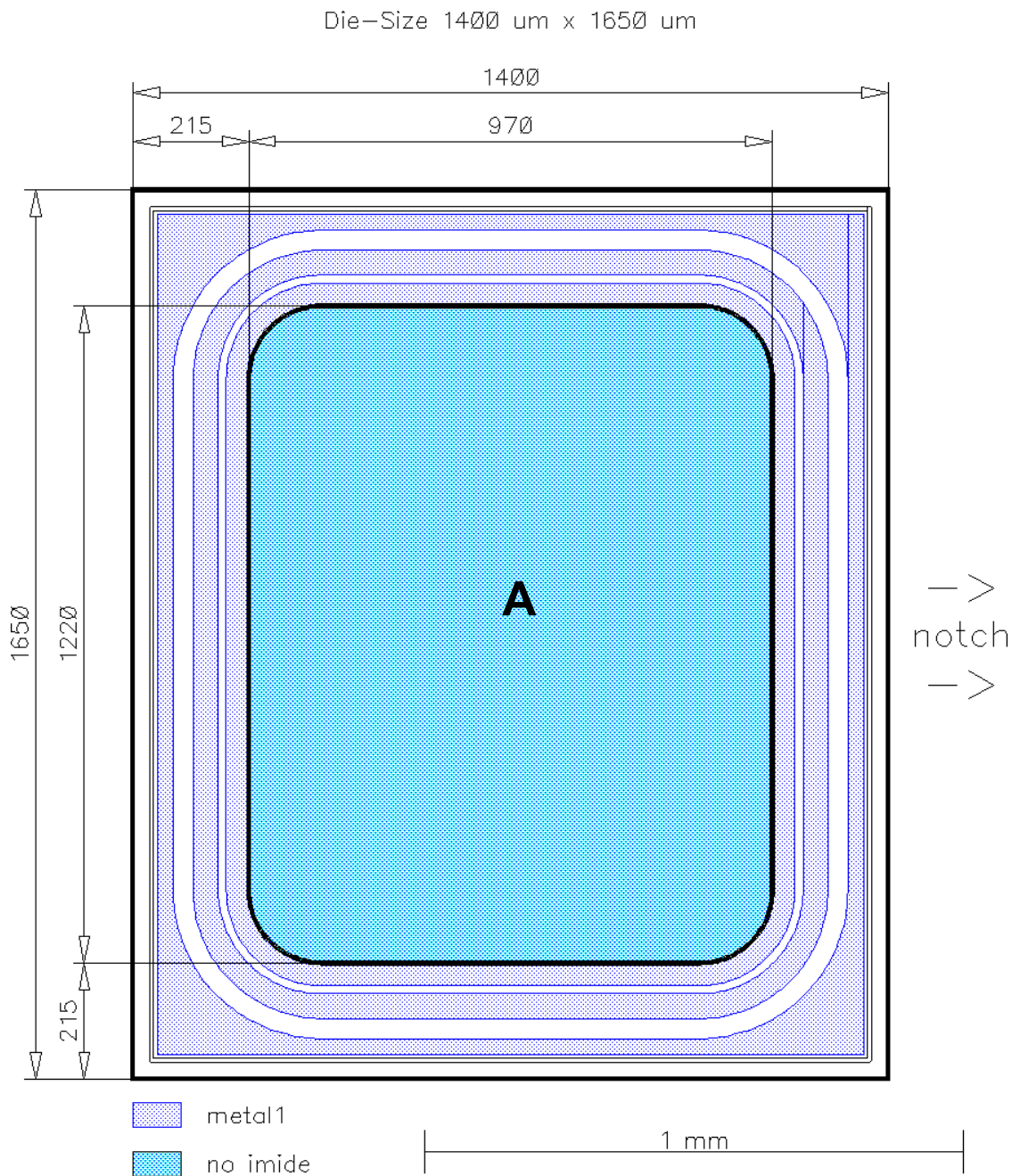
Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Forward voltage drop	$V_F$	$I_F = 6\text{ A}, T_{vj} = 150\text{ °C}$		1.5		V

## 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	tbd	tbd
--	-----	-----

## Chip Drawing



A: Anode pad



SIDC02D65C8

**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**  
**© 2011 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.