

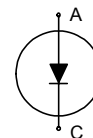
## Fast switching diode chip in EMCON 3 -Technology

### Features:

- 650V EMCON 3 technology 65  $\mu\text{m}$  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
SIDC03D65C8	650V	10A	1.82 x 1.82 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	1.82 x 1.82	mm <sup>2</sup>
Area total	3.31	
Anode pad size	1.39 x 1.39	
Thickness	65	$\mu\text{m}$
Wafer size	200	mm
Max. possible chips per wafer	8499	
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 $17^\circ\text{C} - 25^\circ\text{C}$ , < 6 month
	for open MBB bags	Acc. to IEC62258-3: Atmosphere >99% Nitrogen or inert gas, Humidity <25%RH, Temperature $17^\circ\text{C} - 25^\circ\text{C}$ , < 6 month



# SIDC03D65C8

## 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)	A
Maximum repetitive forward current <sup>2)</sup>	$I_{FRM}$	$T_{vj} < 150\text{ °C}$	20	
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), $T_{vj} = 25\text{ °C}$

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	$I_R$	$V_R = 650\text{ V}$			0.14	µA
Cathode-Anode breakdown Voltage	$V_{BR}$	$I_R = 0.25\text{ mA}$	650			V
Forward voltage drop	$V_F$	$I_F = 10\text{ A}$	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	$V_F$	$I_F = 10\text{ A}, T_{vj} = 150\text{ °C}$		1.5		V

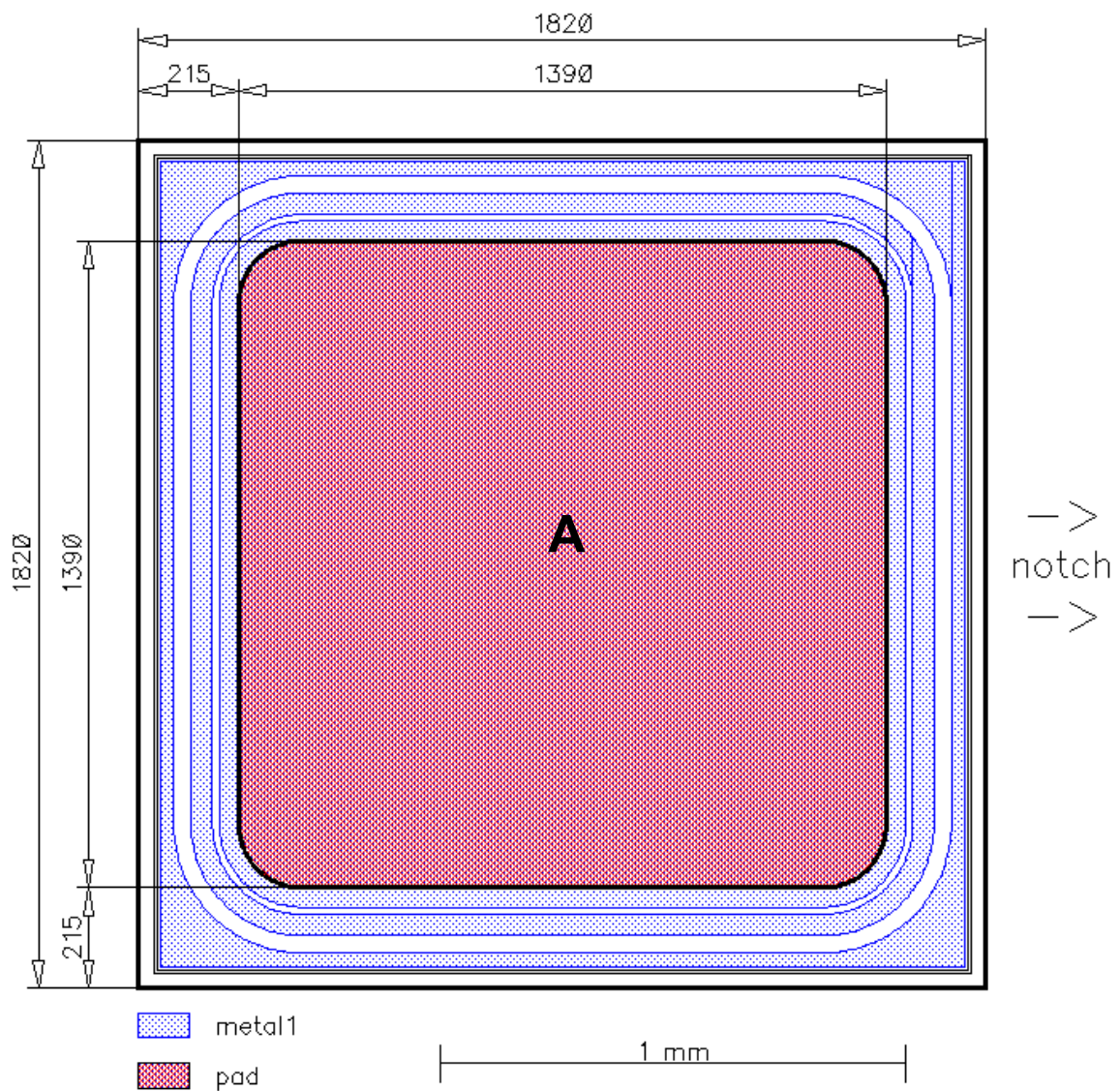
## Further Electrical Characteristics

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
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## Chip Drawing

Die-Size 1820 um x 1820 um



A: Anode pad



SIDC03D65C8

**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

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