

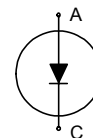
## Fast switching diode

### Features:

- 1700V technology, Emitter Controlled Diode 3<sup>th</sup> generation, 200 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

### This chip is used for:

- power modules



### Applications:

- resonant applications, drives

Chip Type	$V_R$	$I_F$	Die Size	Package
SIDC112D170H	1700V	205A	11.8 x 9.52 mm <sup>2</sup>	sawn on foil

### Mechanical Parameters

Raster size	11.8 x 9.52	mm <sup>2</sup>
Area total	112.3	
Anode pad size	9.78 x 7.5	
Thickness	200	µm
Wafer size	150	mm
Max. possible chips per wafer	114	
Passivation frontside	Photoimide	
Pad metal	3200 nm AlSiCu	
Backside metal	Ni Ag –system suitable for epoxy and soft solder die bonding	
Die bond	Electrically conductive glue or solder	
Wire bond	Al, ≤500µm	
Reject ink dot size	Ø 0.65mm; max 1.2mm	
Recommended storage environment	Store in original container, in dry nitrogen, in dark environment, < 6 month at an ambient temperature of 23°C	



# SIDC112D170H

## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$	$T_{vj} = 25\text{ °C}$	1700	V
Continuous forward current	$I_F$	$T_{vj} < 150\text{ °C}$	<sup>1)</sup>	A
Maximum repetitive forward current	$I_{FRM}$	$T_{vj} < 150\text{ °C}$	410	
Junction temperature range	$T_{vj}$		-40...+175	°C
Operating junction temperature	$T_{vj}$		-40...+150	°C
Dynamic ruggedness <sup>2)</sup>	$P_{max}$	$I_{Fmax} = 410\text{A}, V_{Rmax} = 1700\text{V}, T_{vj} \leq 150\text{ °C}$	tbd	kW

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

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

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

Parameter	Symbol	Conditions	Value			Unit
			min.	typ.	max.	
Reverse leakage current	$I_R$	$V_R = 1700\text{V}$			20	$\mu\text{A}$
Cathode-Anode breakdown Voltage	$V_{BR}$	$I_R = 0.25\text{mA}$	1700			V
Diode forward voltage	$V_F$ <sup>3)</sup>	$I_F = 205\text{A}$		1.9	2.3	V

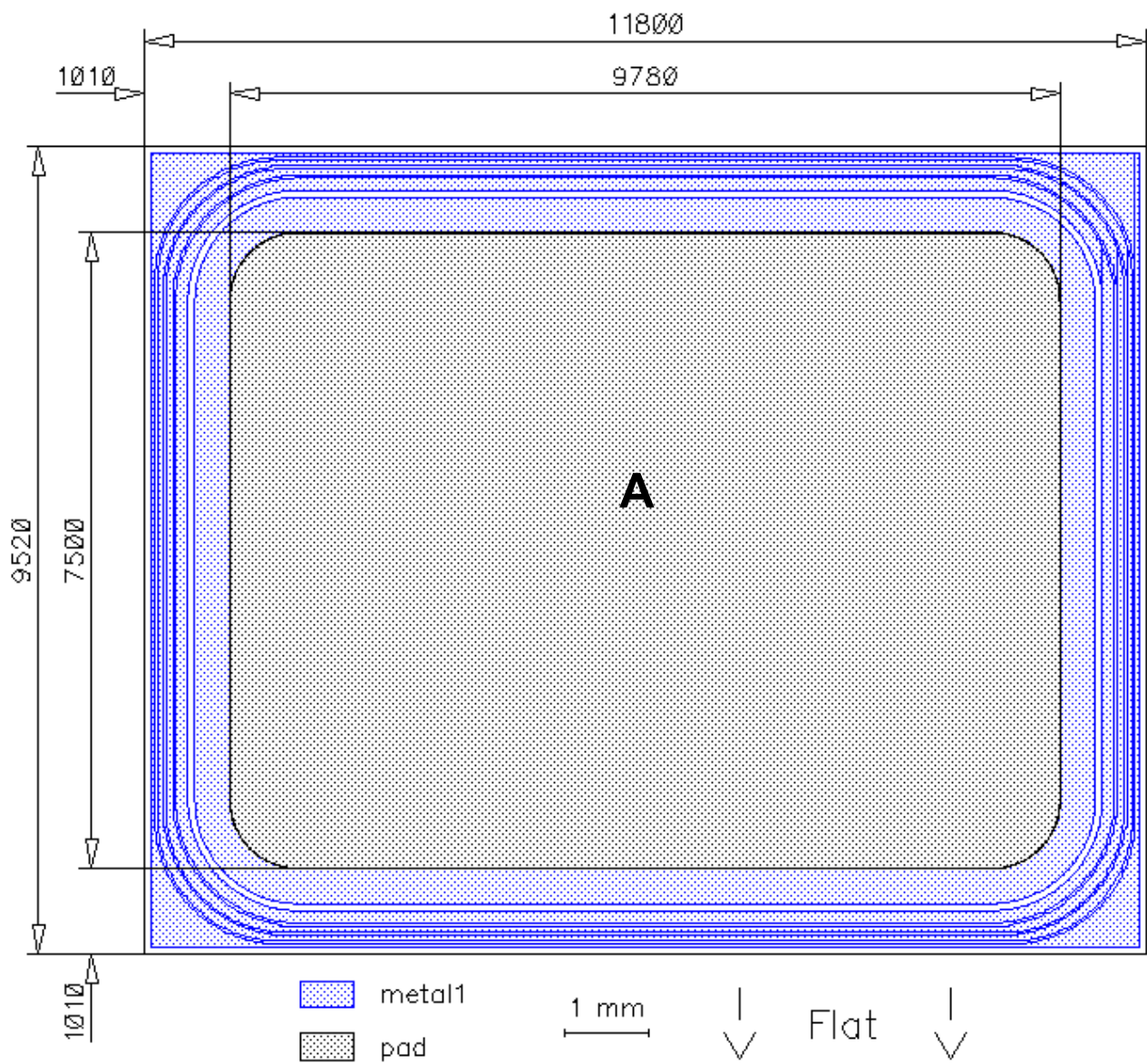
<sup>3)</sup>  $V_F$  tested at lower current

## 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.

## Chip Drawing

Die-Size 11800 um x 9520 um  
L4502-A000-1P-S011



A: Anode pad



# SIDC112D170H

## FURTHER ELECTRICAL CHARACTERISTICS

This chip data sheet refers to the module data sheet		
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## 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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