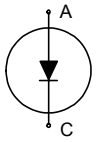
SIDC112D170H

Fast switching diode

Features:
- 1700V technology, Emitter Controlled Diode 3th 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^2	sawn on foil

Mechanical Parameters

Raster size	11.8 x 9.52	mm^2
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	∅ 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	

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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}	T_{vj} = 25 °C	1700	V
Continuous forward current	I_F	T_{vj} < 150°C	1)	A
Maximum repetitive forward current	I_{FRM}	T_{vj} < 150°C	410	
Junction temperature range	T_{vj}		-40...+175	°C
Operating junction temperature	T_{vj}		-40...+150	°C
Dynamic ruggedness2)	P_{max}	I_{Fmax} = 410A, V_{Rmax} = 1700V, $T_{vj} \leq$ 150°C	tbd	kW

1) depending on thermal properties of assembly

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

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

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

3) 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.

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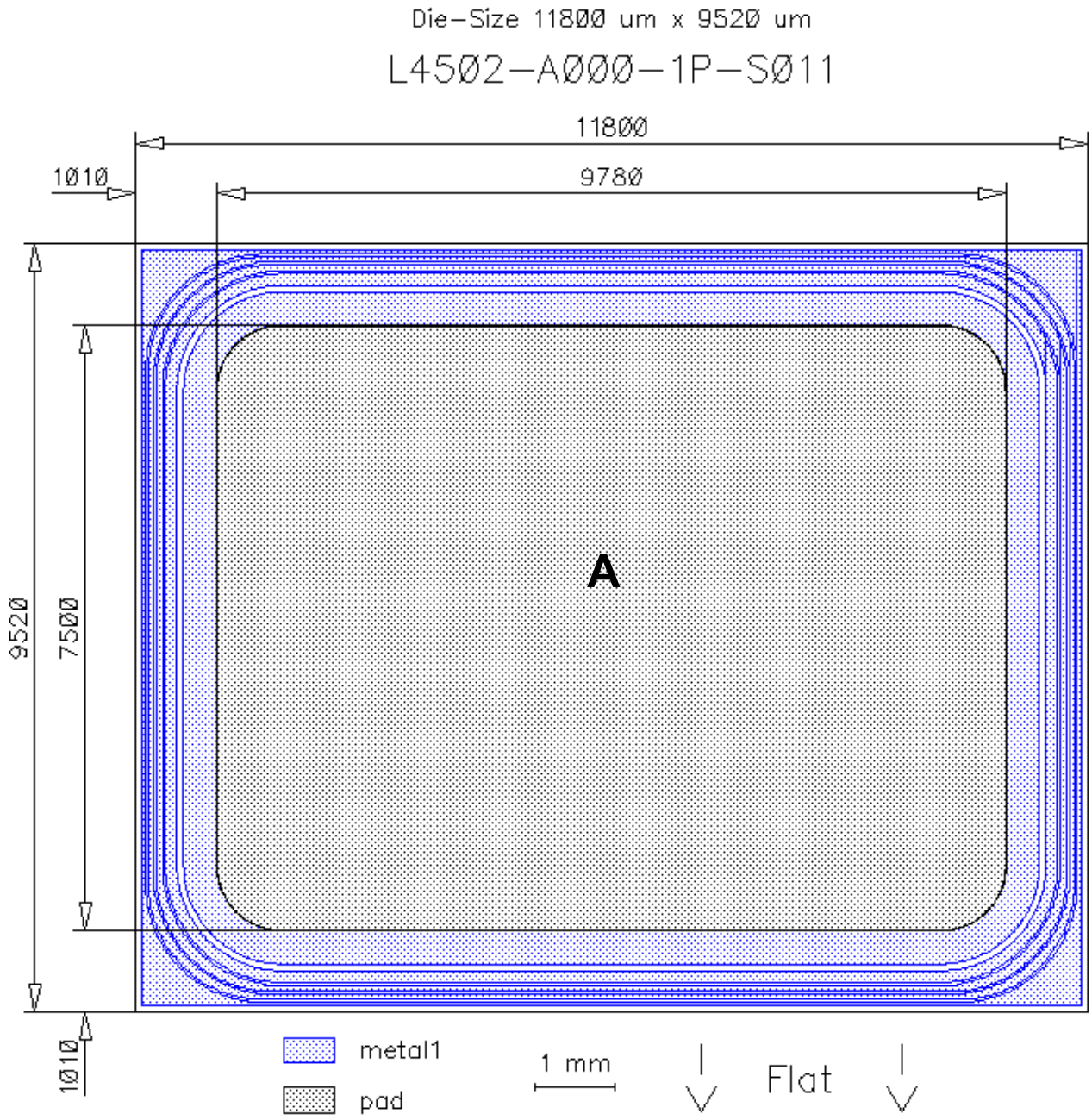
Chip Drawing



A: Anode pad

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FURTHER ELECTRICAL CHARACTERISTICS

This chip data sheet refers to the module data sheet		

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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