Preliminary

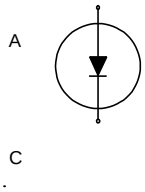
SIDC85D170H

Fast switching diode chip in EMCON 3 -Technology

FEATURES:
- 1700V EMCON 3 technology 200 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:
- EUPEC power modules

Applications:
- resonant applications, drives



Chip Type	V_R	I_F	Die Size	Package	Ordering Code
SIDC85D170H	1700V	150A	9.2 x 9.2 mm^2	sawn on foil	Q67050-A4178-A001

MECHANICAL PARAMETER:

Raster size	9.2 x 9.2	mm^2
Area total / active	84.64 / 67.8	
Anode pad size	7.18 x 7.18	
Thickness	200	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	160 pcs	
Passivation frontside	Photoimide	
Anode metallization	3200 nm Al Si 1%	
Cathode metallization	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, < 6 month	

Edited by INFINEON Technologies AI PS DD HV3, L 4491A, Edition 1, 22.10.2001

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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		1700	V
Continuous forward current limited by T_{jmax}	I_F		150	A
Single pulse forward current (depending on wire bond configuration)	I_{FSM}	t_P = 10 ms sinusoidal	tbd	
Maximum repetitive forward current limited by T_{jmax}	I_{FRM}		300	
Operating junction and storage temperature	T_j , T_{stg}		-55...+150	°C

Static Electrical Characteristics (tested on chip), T_j=25 °C, unless otherwise specified

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse leakage current	I_R	V_R=1700V	T_j=25°C			250	µA
Cathode-Anode breakdown Voltage	V_{Br}	I_R=0.25mA	T_j=25°C	1700			V
Forward voltage drop	V_F	I_F=150A	T_j=25°C		1.8		V

Dynamic Electrical Characteristics, at T_j = 25 °C, unless otherwise specified, tested at component

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse recovery time	t_{rr1}	I_F=150A	T_j = 25 °C		tbd		ns
	t_{rr2}	di/dt=----A/ms V_R=---V	T_j = 125 °C				
Peak recovery current	I_{RRM1}	I_F=150A	T_j = 25 °C		tbd		A
	I_{RRM2}	di/dt=----A/ms V_R=---V	T_j = 125 °C		tbd		
Reverse recovery charge	Q_{rr1}	I_F=150A	T_j=25°C		tbd		µC
	Q_{rr2}	di/dt=----A/ms V_R=---V	T_j=125°C		tbd		
Peak rate of fall of reverse recovery current	di_{rr1}/dt	I_F=150A	T_j=25°C		tbd		A/µs
	di_{rr2}/dt	di/dt=----A/ms V_R=---V	T_j=125°C				
Softness	S1	I_F=150A	T_j=25°C		tbd		1
	S2	di/dt=----A/ms V_R=---V	T_j=125°C				

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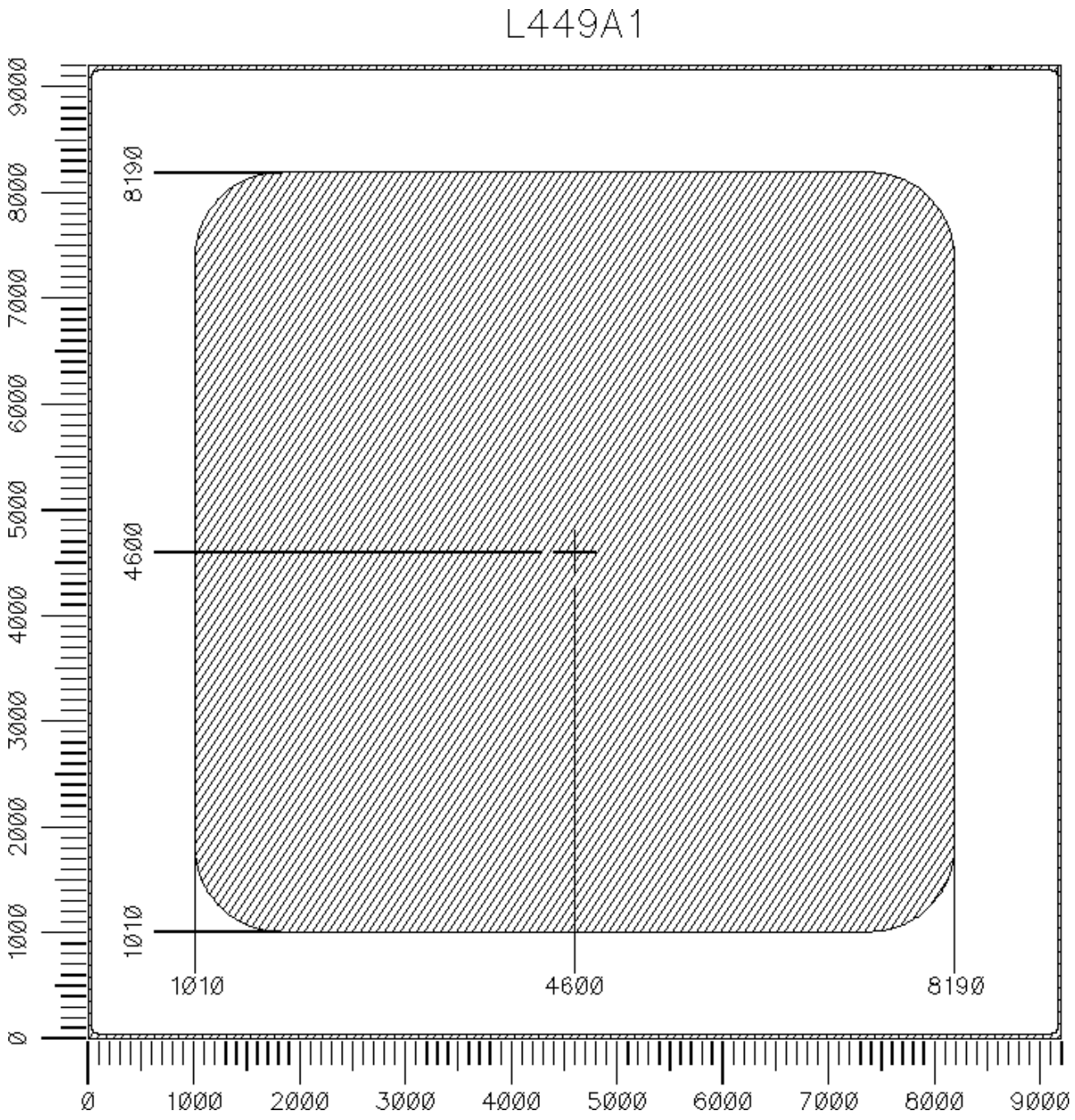
CHIP DRAWING:



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FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the device data sheet	INFINEON TECHNOLOGIES / EUPEC	tbd

Description:

AQL 0,65 for visual inspection according to failure catalog

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Test-Normen Villach/Prüffeld

Published by
Infineon Technologies AG
Bereich Kommunikation
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