

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	IF	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					
Area total / active	84.64 / 67.8	mm ²				
Anode pad size	7.18 x 7.18					
Thickness	200					
Wafer size	150	mm				
Flat position	180	deg				
Max. possible chips per wafer	160 pcs					
Passivation frontside	Photoimide					
Anode metallization	3200 nm Al Si Cu					
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	Ø 0.65mm; max 1.2mm					
Recommended Storage Environment	store in original container, in dry nitrogen, < 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}		1700	V
Continuous forward current limited by T _{jmax}	I _F		150	
Single pulse forward current (depending on wire bond configuration)	I _{FSM}	t _P = 10 ms sinusoidal	740	A
Maximum repetitive forward current limited by T _{jmax}	I _{FRM}		300	
Operating junction and storage temperature	$T_{\rm j}$, $T_{ m stg}$		-55+150	°C

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

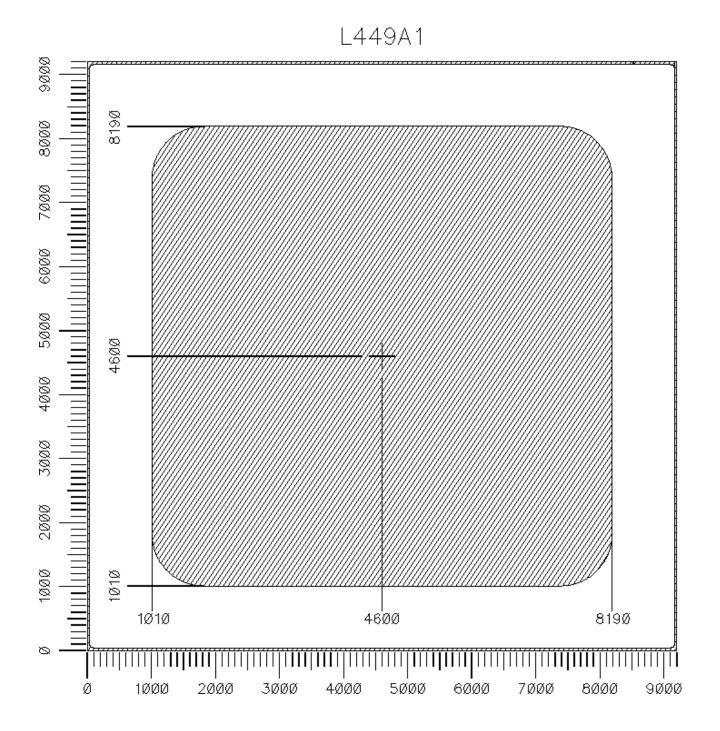
Parameter	Symbol	Cond	Value			Unit	
	Cymbol	Conditions		min.	Тур.	max.	
Reverse leakage current	I _R	V _R =1700V	<i>T_j</i> =25 ° <i>C</i>			27	μA
Cathode-Anode breakdown Voltage	V _{Br}	I _R =0.25mA	<i>T_j</i> =25°C	1700			V
Forward voltage drop	V _F	I _F =150A	<i>T_j</i> =25°C		1.8		V

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

Parameter	Symbol	Conditions		Value			Unit
Falameter	Symbol			min.	Тур.	max.	
Peak recovery current	I _{RRM1}	<i>I_F</i> =150A di/dt=770A/ m s	$T_j = 25 \ ^\circ C$		131		А
	I _{RRM2}	$V_R = 900V$	$T_j = 125 \ ^{\circ}C$		158		
Reverse recovery charge	Q _{rr1}	<i>I_F</i> =150A di/dt=770A/ m s	<i>T_j</i> =25°C		35.8		
	Q _{rr2}	$V_R = 900V$	<i>T_j</i> =125°C		62.3		μC
Peak recovery energy	E _{rec 1}	I _F =150A	$T_{\rm j}=25^{\circ}C$		24.2		
	E _{rec2}	<i>di/dt</i> =770 <i>A/m</i> s <i>V_R</i> =900 <i>V</i>	<i>T_j</i> =125°C		42.9		mJ



CHIP DRAWING:



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FURTHER ELECTRICAL CHARACTERISTICS:

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

Description:

AQL 0,65 for visual inspection according to failure catalog

Electrostatic Discharge Sensitive Device according to MIL-STD 883

Test-Normen Villach/Prüffeld

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