

SIDC59D170H

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
SIDC59D170H	1700V	100A	7.7 x 7.7 mm ²	sawn on foil	Q67050-A4176- A001

MECHANICAL PARAMETER:

Raster size	7.7 x 7.7				
Area total / active	59.29 / 45.35	mm ²			
Anode pad size	5.68 x 5.68				
Thickness	200	μm			
Wafer size	150	mm			
Flat position	180	deg			
Max. possible chips per wafer	238 pcs				
Passivation frontside	Photoimide				
Anode metallization	3200 nm Al Si Cu				
Cathode metallization	Ni Ag –system suitable for epoxy and soft solder die	Ni Ag –system suitable for epoxy and soft solder die bonding			
Die bond	electrically conductive glue or solder				
Wire bond	AI, ≤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		100	
Single pulse forward current (depending on wire bond configuration)	I _{FSM}	$t_P = 10 \text{ ms sinusoidal}$	540	А
Maximum repetitive forward current limited by T _{jmax}	I _{FRM}		200	
Operating junction and storage temperature	$T_{\rm j}$, $T_{ m stg}$		-55+150	°C

$\textbf{Static Electrical Characteristics} \text{ (tested on chip)}, \ \textit{T}_{j}\text{=25 °C, unless otherwise specified}$

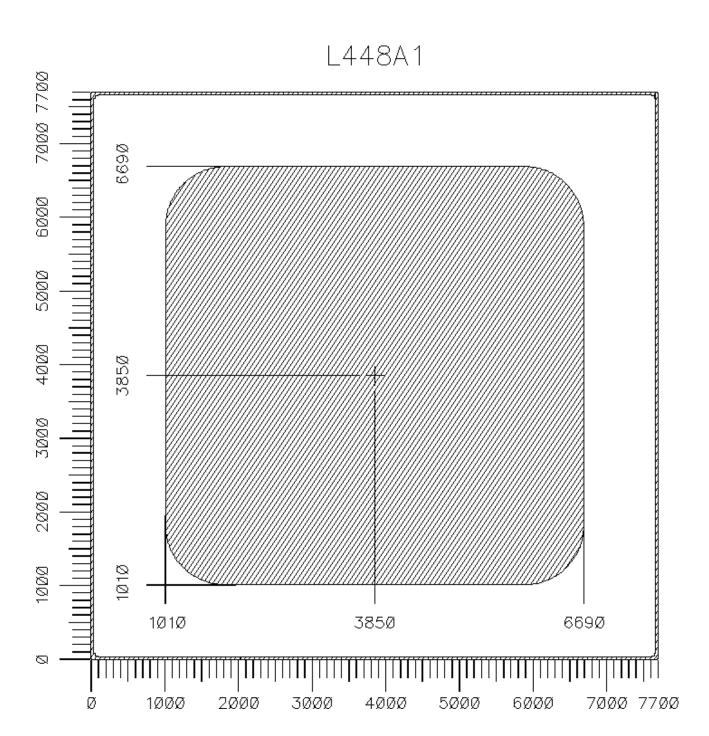
Parameter	Symbol	Condi	Value			Unit	
raiailletei	Symbol	Conditions		min.	Тур.	max.]
Reverse leakage current	I_{R}	V _R =1700V	<i>T_j</i> =25 °C			27	μΑ
Cathode-Anode breakdown Voltage	V_{Br}	I _R =0.25mA	<i>T_j</i> =25°C	1700			V
Forward voltage drop	V _F	I _F =100A	T _j =25°C		1.8		V

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

Parameter	Symbol	Conditions		Value			Unit
raiailletei	Syllibol			min.	Тур.	max.	
Peak recovery current	I_{RRM1}	$I_F = 100A$ di/dt=1170A/ms	$T_j = 25 ^{\circ}\text{C}$		123		Α
	I_{RRM2}	$V_R=900V$	$T_j = 125 {}^{\circ}\text{C}$		133		
Reverse recovery charge	Q _{rr1}	$I_F = 100A$	T _j =25 °C		26.7		
	Q _{rr2}	$\frac{\text{di/dt=1170A/ms}}{V_R=900V}$	T _j =125°C		43.3		μC
Peak recovery energy	E _{rec 1}	I _F =100A	T _j =25°C		13.3		
	E _{rec2}	di/dt=1170 A/ms $V_R=900 V$	T _j =125°C		23.3		mJ



CHIP DRAWING:





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FURTHER ELECTRICAL CHARACTERISTICS:

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

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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