

SIDC78D170H

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

• resonant applications, drives

Chip Type	V _R	le.	Die Size	Package	Ordering Code
	▼R	IF	DIC OIZC	i ackage	ordering oode
SIDC78D170H	1700V	150A	7.35 x 10.65 mm ²	sawn on foil	Q67050-A4177- A001

Applications:

MECHANICAL PARAMETER:

Raster size	7.35 x 10.65				
Area total / active	78.28 / 61.82	mm ²			
Anode pad size	5.33 x 8.63	1			
Thickness	200	μm			
Wafer size	150	mm			
Flat position	180	deg			
Max. possible chips per wafer	178 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 solo					
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				



Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V _{RRM}		1700	V
Continuous forward current limited by $T_{j\text{max}}$	I _F		150	
Single pulse forward current (depending on wire bond configuration)	I _{FSM}	t _P = 10 ms sinusoidal	690	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

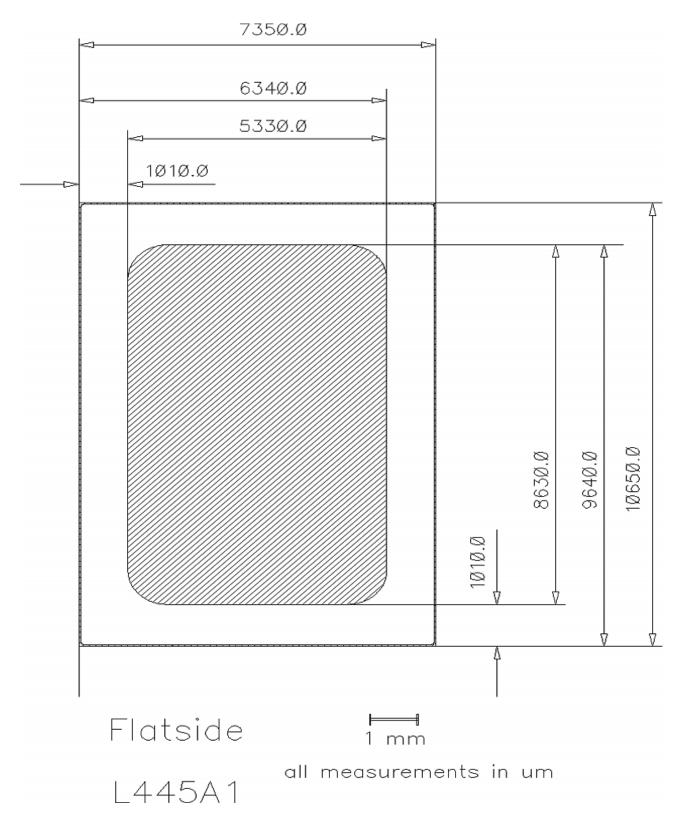
Parameter	Symbol	Cond	Value			Unit	
	Cymbol	Conditions		min.	Тур.	max.	
Reverse leakage current	I _R	V _R =1700V	<i>T_j</i> =25 ° <i>C</i>			27	μA
Cathode-Anode breakdown Voltage	V _{Br}	I _R =0.25mA	<i>T_j</i> =25°C	1700			V
Forward voltage drop	V _F	I _F =150A	<i>T_j</i> =25°C		1.8		V

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

Parameter	Symbol	Conditions		Value			Unit
Falameter	Symbol			min.	Тур.	max.	Onit
Peak recovery current	I _{RRM1}	l _F =150A di/dt=730A/ m s	$T_j = 25 \ ^\circ C$		175		А
	I _{RRM2}	$V_R = 900V$	$T_j = 125 \ ^\circ C$		190		7
Reverse recovery charge	Q _{rr1}	$I_F=150A$ di/dt=720.4/mo	<i>T_j</i> =25 ° <i>C</i>		38.3		
	Q _{rr2}	<i>di/dt=730A/ms</i> <i>V_R=900V</i>	<i>T_j</i> =125°C		65.0		μC
Peak recovery energy	E _{rec 1}	I _F =150A	$T_{\rm j}=25^{\circ}C$		20.2		
	E _{rec2}	<i>di/dt=730A/m</i> s <i>V_R=900V</i>	<i>T_j</i> =125°C		36.7		mJ



CHIP DRAWING:





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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