Preliminary

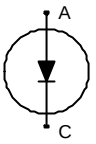
SIDC81D60E6

Fast switching diode chip in EMCON-Technology

FEATURES:
- 600V EMCON technology 70 µm chip
- soft , fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:
- EUPEC power modules and discrete devices

Applications:
- SMPS, resonant applications, drives



Chip Type	V_R	I_F	Die Size	Package	Ordering Code
SIDC81D60E6	600V	200A	9 x 9 mm^2	sawn on foil	Q67050-A4012-A001

MECHANICAL PARAMETER:

Raster size	9 x 9	mm^2
Area total / active	81 / 69.39	
Anode pad size	8.28 x 8.28	
Thickness	70	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	169 pcs	
Passivation frontside	Photoimide	
Anode metallisation	3200 nm AlSiCu	
Cathode metallisation	1400 nm 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 at an ambient temperature of 23°C	

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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		600	V
Continuous forward current limited by T_{jmax}	I_F		200	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}		600	
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=600V	T_j=25°C			27	µA
Cathode-Anode breakdown Voltage	V_{Br}	I_R=4mA	T_j=25°C	600			V
Forward voltage drop	V_F	I_F=200A	T_j=25°C		1.25		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=200A di/dt=4000A/ms V_R=300V	T_j =25°C		tbd		ns
	t_{rr2}		T_j =125°C				
Peak recovery current	I_{RRM1}	I_F=200A di/dt=4000A/ms V_R= 300V	T_j =25°C		247.7		A
	I_{RRM2}		T_j =125°C		300		
Reverse recovery charge	Q_{rr1}	I_F=200A di/dt=4000A/ms V_R= 300V	T_j=25°C		13.1		µC
	Q_{rr2}		T_j=125°C		21.8		
Peak rate of fall of reverse recovery current	di_{rr1}/dt	I_F=200A di/dt=4000A/ms V_R= 300V	T_j=25°C		tbd		A/µs
	di_{rr2}/dt		T_j=125°C				
Softness	S1	I_F=200A di/dt=4000A/ms V_R= 300V	T_j=25°C		tbd		1
	S2		T_j=125°C				

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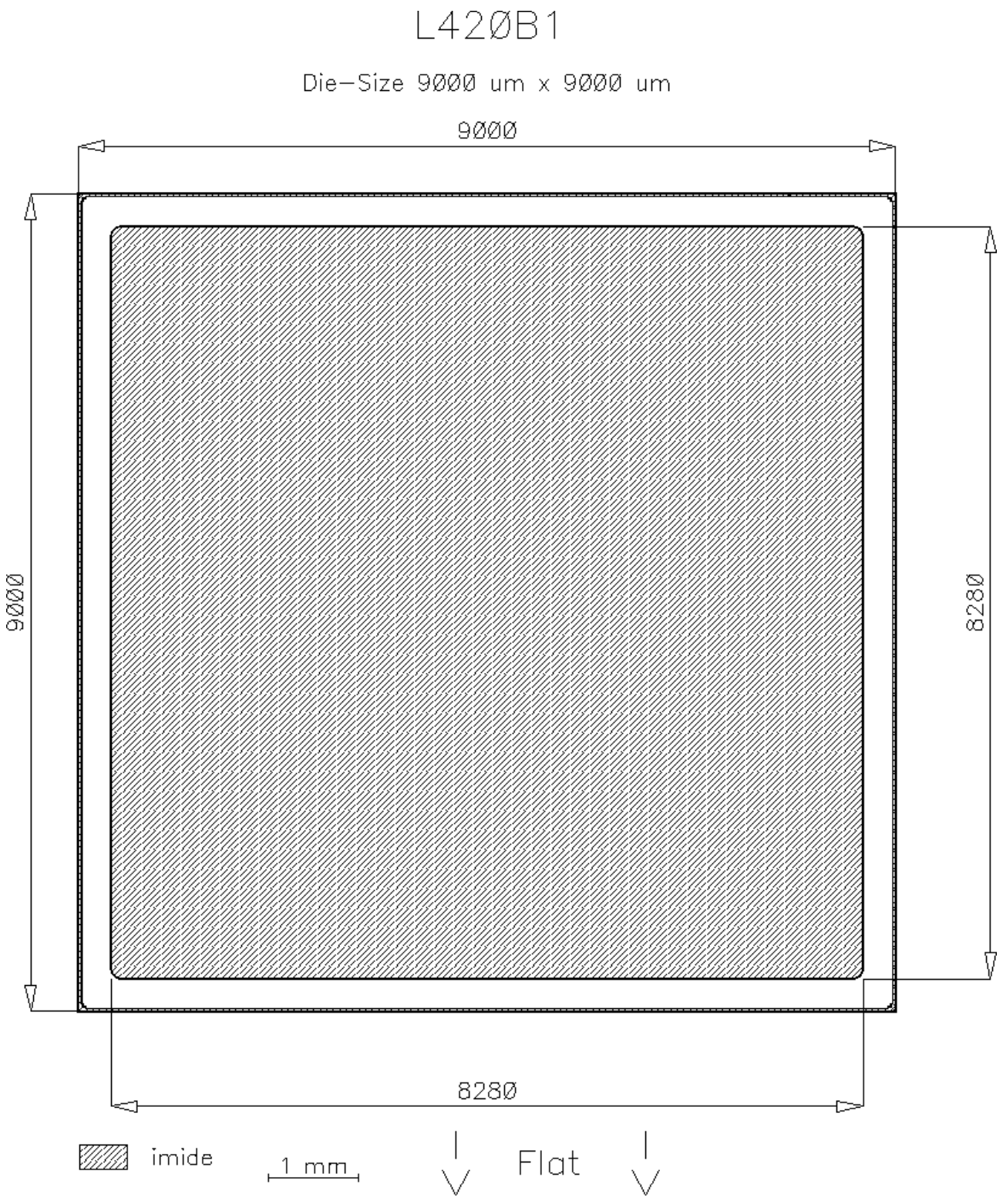
CHIP DRAWING:



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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

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