

# SIDC30D120E6

Fast switching diode chip in EMCON-Technology

**FEATURES:**

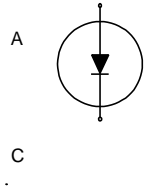
- 1200V EMCON technology 130 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

**This chip is used for:**

- EUPEC power modules and discrete devices

**Applications:**

- SMPS, resonant applications, drives



Chip Type	V <sub>R</sub>	I <sub>F</sub>	Die Size	Package	Ordering Code
SIDC30D120E6	1200V	35A	5.5 x 5.5 mm <sup>2</sup>	sawn on foil	Q67050-A4125-A001

**MECHANICAL PARAMETER:**

Raster size	5.5 x 5.5	mm <sup>2</sup>
Area total / active	30.25 / 23.33	
Anode pad size	4.78 x 4.78	
Thickness	130	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	482 pcs	
Passivation frontside	Photoimide	
Anode metallisation	3200 nm Al Si 1%	
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	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	$V_{RRM}$		1200	V
Continuous forward current limited by $T_{jmax}$	$I_F$		35	A
Single pulse forward current (depending on wire bond configuration)	$I_{FSM}$	$t_p = 10\text{ ms sinusoidal}$	tbd	
Maximum repetitive forward current limited by $T_{jmax}$	$I_{FRM}$		70	
Operating junction and storage temperature	$T_j, T_{stg}$		-55...+150	°C

## Static Electrical Characteristics (tested on chip), $T_j=25^\circ\text{C}$ , unless otherwise specified

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse leakage current	$I_R$	$V_R=1200\text{V}$	$T_j=25^\circ\text{C}$			250	$\mu\text{A}$
Cathode-Anode breakdown Voltage	$V_{BR}$	$I_R=2\text{mA}$	$T_j=25^\circ\text{C}$	1200			V
Forward voltage drop	$V_F$	$I_F=35\text{A}$	$T_j=25^\circ\text{C}$		1.9		V

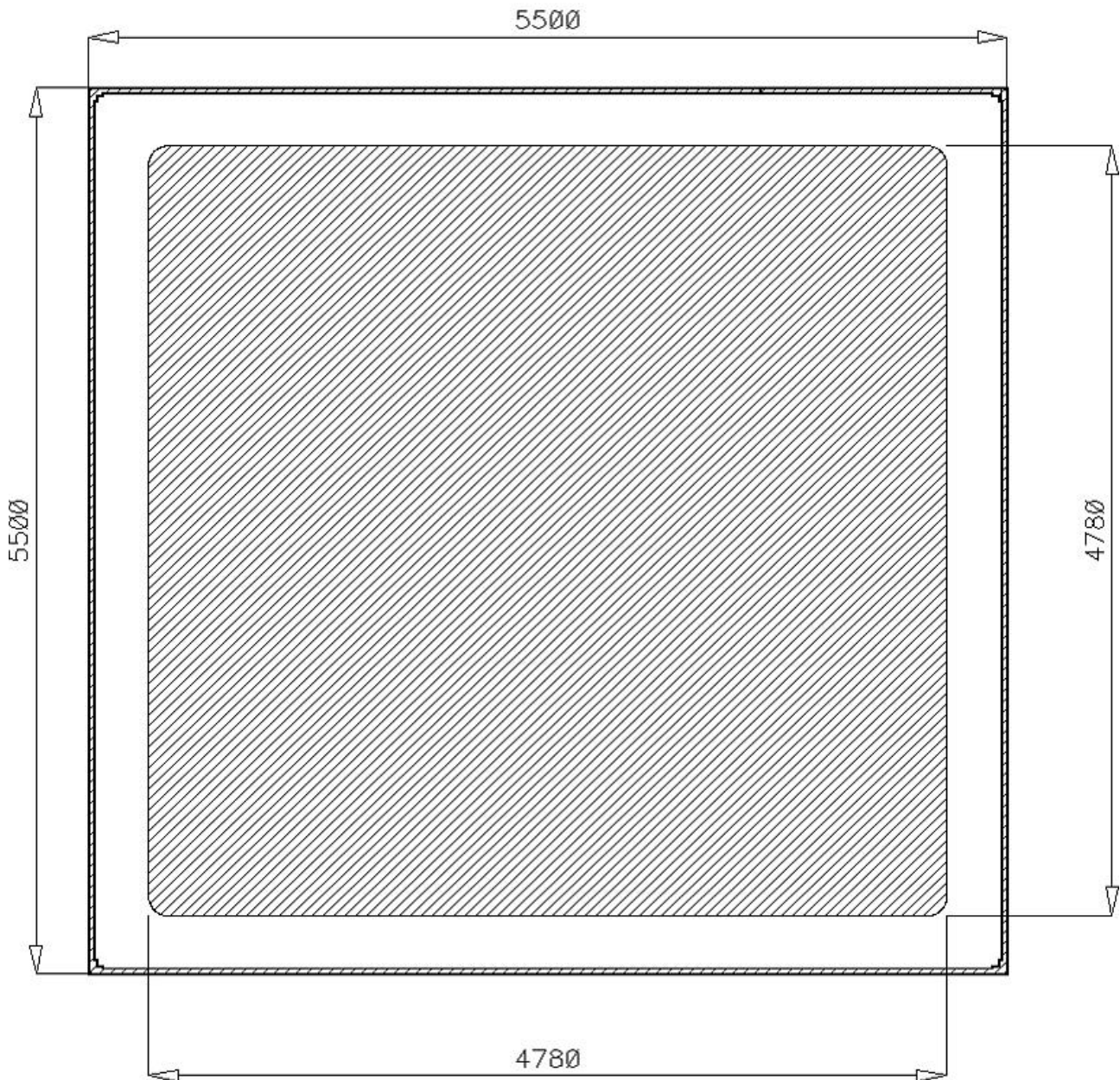
## Dynamic Electrical Characteristics, at $T_j = 25^\circ\text{C}$ , unless otherwise specified, tested at component


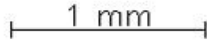


Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse recovery time	$t_{rr1}$	$I_F=35\text{A}$	$T_j = 25^\circ\text{C}$		tbd		ns
	$t_{rr2}$	$di/dt=910\text{A/ms}$ $V_R=600\text{V}$	$T_j = 125^\circ\text{C}$				
Peak recovery current	$I_{RRM1}$	$I_F=35\text{A}$	$T_j = 25^\circ\text{C}$		36.8		A
	$I_{RRM2}$	$di/dt=910\text{A/ms}$ $V_R= 600\text{V}$	$T_j = 125^\circ\text{C}$		46.3		
Reverse recovery charge	$Q_{rr1}$	$I_F=35\text{A}$	$T_j=25^\circ\text{C}$		3.55		$\mu\text{C}$
	$Q_{rr2}$	$di/dt=910\text{A/ms}$ $V_R= 600\text{V}$	$T_j=125^\circ\text{C}$		7.63		
Peak rate of fall of reverse recovery current	$di_{rr1}/dt$	$I_F=35\text{A}$	$T_j=25^\circ\text{C}$		tbd		A/ $\mu\text{s}$
	$di_{rr2}/dt$	$di/dt=910\text{A/ms}$ $V_R= 600\text{V}$	$T_j=125^\circ\text{C}$				
Softness	S1	$I_F=35\text{A}$	$T_j=25^\circ\text{C}$		tbd		1
	S2	$di/dt=910\text{A/ms}$ $V_R= 600\text{V}$	$T_j=125^\circ\text{C}$				

CHIP DRAWING:

## L418B1

Die-Size 5500 um x 5500 um



 imide     1 mm     Flat    



Preliminary

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**FURTHER ELECTRICAL CHARACTERISTICS:**

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This chip data sheet refers to the device data sheet

INFINEON TECHNOLOGIES /  
EUPEC

tbd

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**Description:**

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AQL 0,65 for visual inspection according to failure catalog

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Electrostatic Discharge Sensitive Device according to MIL-STD 883

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Test-Normen Villach/Prüffeld

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