

Fast switching diode chip in EMCON-Technology

**FEATURES:**

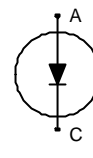
- 600V EMCON technology 70  $\mu\text{m}$  chip
- soft , fast switching
- low reverse recovery charge
- small temperature coefficient

**This chip is used for:**

- EUPEC power modules and discrete devices

**Applications:**

- SMPS, resonant applications, drives



Chip Type	V <sub>CE</sub>	I <sub>CN</sub>	Die Size	Package	Ordering Code
SIDC30D60E	600V	75A	5.50 x 5.50 mm <sup>2</sup>	sawn on foil	C67047-A4679

**MECHANICAL PARAMETER:**

Raster size	5.50 x 5.50	mm <sup>2</sup>
Area total / active	30.25 / 23.33	
Anode pad size	4.08 x 4.08	
Thickness	70	$\mu\text{m}$
Wafer size	125	mm
Flat position	180	deg
Max. possible chips per wafer	289	
Passivation frontside	Photoimide	
Anode metalization	3200 nm Al Si 1%	
Cathode metalization	1400 nm Ni Ag –system suitable for epoxy and soft solder die bonding	
Die bond	electrically conductive glue or solder	
Wire bond	Al, $\leq 500\mu\text{m}$	
Reject Ink Dot Size	tbd	
Recommended Storage Environment	store in original container, in dry nitrogen, < 6 month	

## Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	$V_{RRM}$		600	V
Continuous forward current limited by $T_{jmax}$	$I_F$		75	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 $T_{jmax}$	$I_{FRM}$		150	
Operating junction and storage temperature	$T_j, T_{stg}$		-55...+150	°C

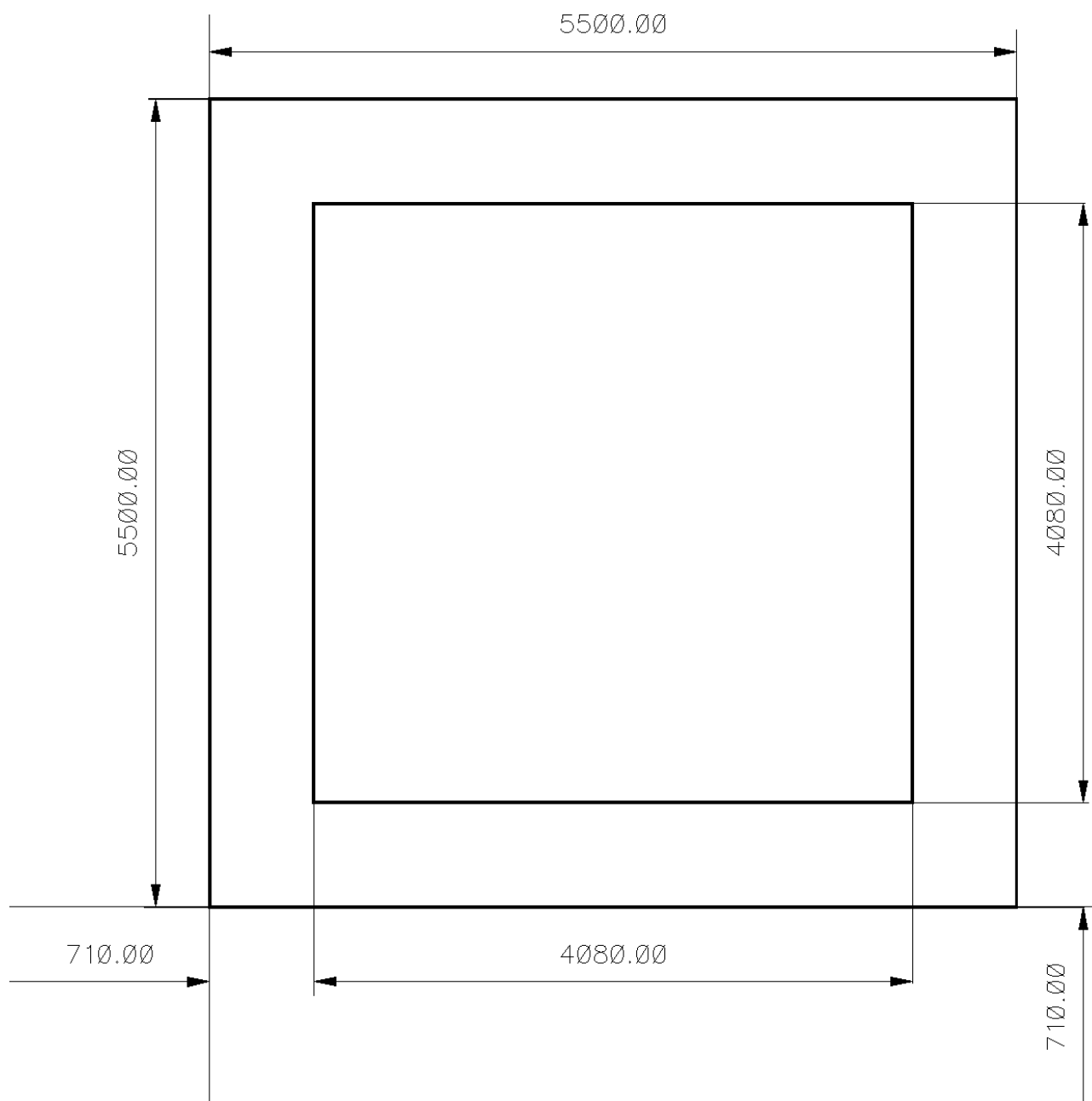
## Static Electrical Characteristics (tested on chip), $T_j=25\text{ °C}$ , unless otherwise specified

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse leakage current	$I_R$	$V_R=600\text{ V}$	$T_j=25\text{ °C}$			250	μA
Cathode-Anode breakdown Voltage	$V_{Br}$	$I_R=4\text{ mA}$	$T_j=25\text{ °C}$	600			V
Forward voltage drop	$V_F$	$I_F=75\text{ A}$	$T_j=25\text{ °C}$		1.25		V

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

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse recovery time	$t_{rr1}$	$I_F=75\text{ A}$	$T_j = 25\text{ °C}$		tbd		ns
	$t_{rr2}$	$di/dt=3000\text{ A/ms}$ $V_R=300\text{ V}$	$T_j = 150\text{ °C}$				
Peak recovery current	$I_{RRM1}$	$I_F=75\text{ A}$	$T_j = 25\text{ °C}$		95		A
	$I_{RRM2}$	$di/dt=3000\text{ A/ms}$ $V_R=300\text{ V}$	$T_j = 150\text{ °C}$		115		
Reverse recovery charge	$Q_{rr1}$	$I_F=75\text{ A}$	$T_j=25\text{ °C}$		5.1		μC
	$Q_{rr2}$	$di/dt=3000\text{ A/ms}$ $V_R=300\text{ V}$	$T_j=150\text{ °C}$		7.9		
Peak rate of fall of reverse recovery current	$di_{rr1}/dt$	$I_F=75\text{ A}$	$T_j=25\text{ °C}$		tbd		A/μs
	$di_{rr2}/dt$	$di/dt=3000\text{ A/ms}$ $V_R=300\text{ V}$	$T_j=150\text{ °C}$				
Softness	S1	$I_F=75\text{ A}$	$T_j=25\text{ °C}$		tbd		1
	S2	$di/dt=3000\text{ A/ms}$ $V_R=300\text{ V}$	$T_j=150\text{ °C}$				

**CHIP DRAWING:**



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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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