

# SIDC09D60E6

### 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	<b>V</b> <sub>R</sub>	I <sub>F</sub>	Die Size	Package	Ordering Code
SIDC09D60E6	600V	20A	3 x 3 mm <sup>2</sup>	sawn on foil	Q67050-A4006- A001

### **MECHANICAL PARAMETER:**

Raster size	3 x 3			
Area total / active	9 / 6.7	mm <sup>2</sup>		
Anode pad size	2.51 x 2.51			
Thickness	70	μm		
Wafer size	150			
Flat position	180	deg		
Max. possible chips per wafer	1667 pcs			
Passivation frontside	ide 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			
rire 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	$V_{RRM}$		600	V
Continuous forward current limited by $T_{j\text{max}}$	I <sub>F</sub>		20	
Single pulse forward current (depending on wire bond configuration)	I <sub>FSM</sub>	$t_P = 10 \text{ ms sinusoidal}$ $T_j = 25^{\circ}\text{C}$	80	А
Maximum repetitive forward current limited by T <sub>jmax</sub>	I <sub>FRM</sub>		60	
Operating junction and storage temperature	$T_{\rm j}$ , $T_{\rm stg}$		-55+150	°C

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

Parameter	Symbol	Cond	Value			Unit	
Tarameter Symbol Co		Cond	itions	min.	Тур.	max.	
Reverse leakage current	$I_{R}$	V <sub>R</sub> =600V	<i>T<sub>j</sub></i> =25 °C			27	μΑ
Cathode-Anode breakdown Voltage	V <sub>Br</sub>	$I_R=3mA$	<i>T<sub>j</sub></i> =25°C	600			V
Forward voltage drop	V <sub>F</sub>	I <sub>F</sub> =20A	<i>T<sub>j</sub></i> =25 °C	-	1.25	1.7	V

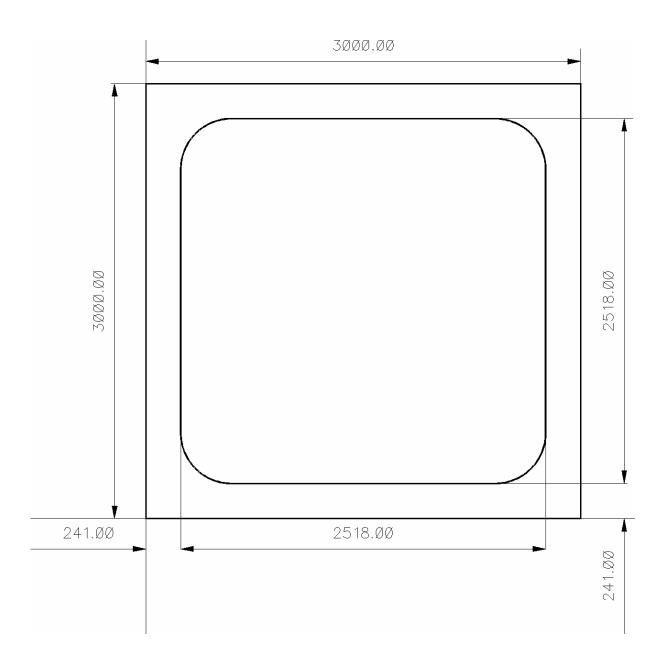
### **Dynamic Electrical Characteristics**, at $T_j = 25$ °C, unless otherwise specified, tested at component

Parameter	Symbol	Conditions		Value			Unit
rarameter	Symbol			min.	Тур.	max.	Joint
Reverse recovery time	t <sub>rr1</sub>	I <sub>F</sub> =20A di/dt=700A/ <b>m</b> s	$T_j = 25$ °C		150		ns
	t <sub>rr2</sub>	$V_R=400V$	$T_j = 125$ °C		200		
Peak recovery current	I <sub>RRM1</sub>	I <sub>F</sub> =20A	$T_j = 25$ °C		20		Α
	I <sub>RRM2</sub>	$V_{R}=300V$	$T_j = 125$ °C		25		
Reverse recovery charge	Q <sub>rr1</sub>	I <sub>F</sub> =20A	<i>T<sub>j</sub></i> =25°C		1.7		
	Q <sub>rr2</sub>	$di/dt=900A/ms$ $V_R=300V$	T <sub>j</sub> =125°C		2.7		μC





### **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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