

Preliminary

SIDC06D60E6

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	l _F	Die Size	Package	Ordering Code
SIDC06D60E6	600V	10A	2.45 x 2.45 mm ²	sawn on foil	Q67050-A4166- A001

MECHANICAL PARAMETER:

Raster size	2.45 x 2.45				
Area total / active	6 / 3.53	mm ²			
Anode pad size	1.73 x 1.73]			
Thickness	70	μm			
Wafer size	150	mm			
Flat position	180	deg			
Max. possible chips per wafer	2520 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	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 $\ensuremath{T_{jmax}}$	I _F		10		
Single pulse forward current (depending on wire bond configuration)	I _{FSM}	$t_P = 10 ms sinusoidal$	tbd	A	
Maximum repetitive forward current limited by T _{jmax}	I _{FRM}		30		
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	Cond	Value			Unit	
Falameter	Symbol	Conditions		min.	Тур.	max.	Onic
Reverse leakage current	I _R	V _R =600V	<i>T_j</i> =25 ° <i>C</i>			27	μA
Cathode-Anode breakdown Voltage	V _{Br}	I _R =1mA	<i>T_j</i> =25°C	600			V
Forward voltage drop	V _F	I _F =10A	<i>T_j</i> =25°C		1.25		V

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

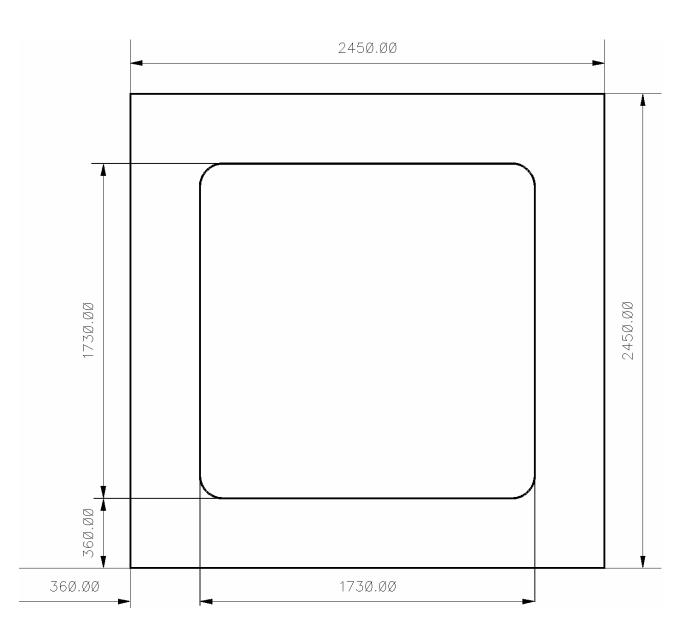
Parameter	Symbol	Conditions		Value			Unit
Falameter	Symbol			min.	Тур.	max.	
Reverse recovery time	t _{rr1}	I _F =10A	$T_j = 25 \degree C$		tbd		
	t _{rr2}	di/dt=300A/ms V _R =300V	$T_j = 125 ^{\circ}C$				ns
Peak recovery current	I _{RRM1}	$I_F=10A$	$T_j = 25 °C$		8		А
	I _{RRM2}	di/dt=300A/ms V _R = 300V	$T_j = 125 ^{\circ}C$		11		7
Reverse recovery charge	Q _{rr1}	I _F =10A	<i>T_j</i> =25°C		1.07		
	Q _{rr2}	di/dt=300A/ m s V _R = 300V	<i>T_j</i> =125°C		1.7		μC
Peak rate of fall of reverse	di _{rr1} /dt	I _F =10A	$T_{\rm j}=25^{\circ}C$		tbd		A /
recovery current	di _{rr2} /dt	di/dt=300A/ m s V _R = 300V	<i>T_j</i> =125°C				- A/μs
Softness	S1	$I_F=10A$ di/dt=200A/mo	<i>T_j</i> =25 ° <i>C</i>		tbd		1
	S2	<i>di/dt=300A/ms</i> <i>V_R= 300V</i>	<i>T_j</i> =125°C				



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CHIP DRAWING:





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FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the	INFINEON TECHNOLOGIES /	tbd
device data sheet	EUPEC	ιbu

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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