

Fast switching diode chip in EMCON 3-Technology

FEATURES:

- 600V EMCON 3 technology 70 μm chip
- soft, fast switching
- low reverse recovery charge
- · small temperature coefficient

This chip is used for:

- power module
- discrete components

T_c

Applications:

- drives
- white goods
- resonant applications

Chip Type	V_R	I _F	Die Size	Package
SIDC06D60C6	600V	20A	2.34 x 2.42 mm ²	sawn on foil

MECHANICAL PARAMETER:

Raster size	2.34 x 2.42				
Area total / active	5.66 / 3.85	mm^2			
Anode pad size	1.92 x 2				
Thickness	70	μm			
Wafer size	150	mm			
Flat position	180	deg			
Max. possible chips per wafer	2581 pcs				
Passivation frontside	Photoimide				
Anode metallization	tion 3200 nm AlSiCu				
Cathode metallization	Ni Ag –system suitable for epoxy and soft solder die bonding				
Die bond	electrically conductive glue or solder				
Wire bond					
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	1_		1)	
T _{jmax}	I _F			Α
Maximum repetitive forward current	l		40	
limited by T _{jmax}	/ _{FRM}		40	
Operating junction and storage temperature	$T_{\rm j}$, $T_{ m stg}$		-40+175	°C

¹⁾ depending on thermal properties of assembly

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

Parameter	Symbol	Cond	Value			Unit	
raiailletei	Syllibol	Cona	itions	min.	Тур.		
Reverse leakage current	I_{R}	V _R =600V	<i>T_j</i> =25 °C			27	μΑ
Cathode-Anode breakdown Voltage	V _{Br}	I _R =0.25mA	<i>T_j</i> =25°C	600			V
Forward voltage drop	V_{F}	I _F =20A	<i>T_j</i> =25 °C	1.25	1.6	1.95	V

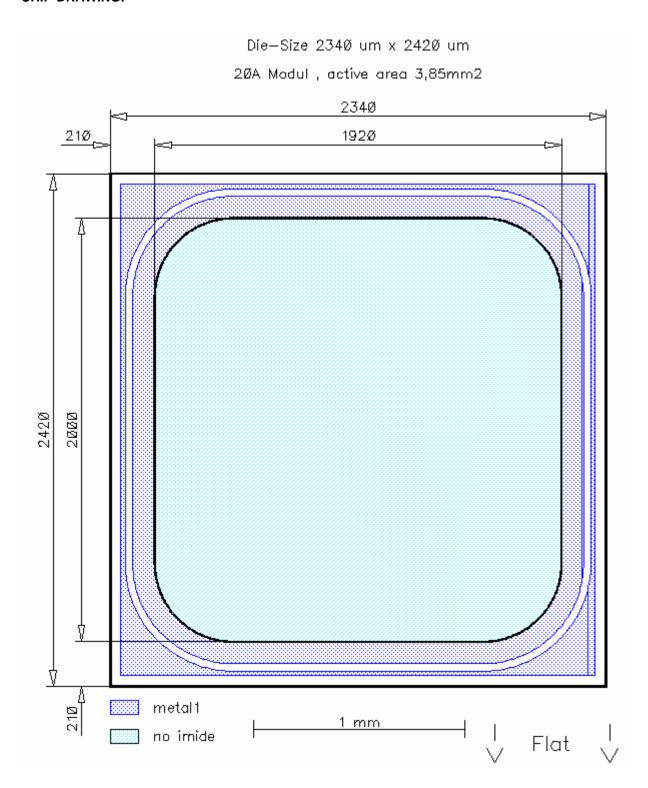
Dynamic Electrical Characteristics (verified by design/characterization), inductive load

Parameter	Symbol	Conditions		Value 2)			Unit
raiailletei	Syllibol			min.	Тур.	max.	John
Peak reverse recovery current	I _{RM}	I_F =20A di/dt=1800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 \text{ °C}$ $T_j = 125 \text{ °C}$ $T_j = 150 \text{ °C}$		30.0 32.0 34.0		A
Recovered charge	Q _r	I_F =20A di/dt=1800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 \text{ °C}$ $T_j = 125 \text{ °C}$ $T_j = 150 \text{ °C}$		1.00 1.75 2.20		μC
Reverse recovery energy	E _{rec}	I_F =20A di/dt=1800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 \text{ °C}$ $T_j = 125 \text{ °C}$ $T_j = 150 \text{ °C}$		0.21 0.37 0.47		mJ

²⁾ values also influenced by parasitic L- and C- in measurement and package.



CHIP DRAWING:



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This chip data sheet refers to the device data sheet 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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