

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



Applications:

- drives
- white goods
- resonant applications

Chip Type	V_R	I _F	Die Size	Package
SIDC02D60C6	600V	6A	1.4 x 1.65 mm ²	sawn on foil

MECHANICAL PARAMETER:

Raster size	1.4 x 1.65				
Area total / active	2.31 / 1.31	mm ²			
Anode pad size	0.98 x 1.23				
Thickness	70	μm			
Wafer size	150	mm			
Flat position	180	deg			
Max. possible chips per wafer	6468 pcs				
Passivation frontside Photoimide					
Anode metallization	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	AI, ≤500μm				
Reject ink dot size	Ø 0.65mm; max 1.2mm				
Recommended storage environment	torage 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}		600	V	
Continuous forward current limited by T_{jmax}	I _F		1)	۸	
Maximum repetitive forward current limited by T _{jmax}	I _{FRM}		12	A	
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	Condi	Value			Unit	
raiailietei	Syllibol	Conditions		min.	Тур.	max.	
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}	$I_F = 6A$	<i>T_j</i> =25 °C	1.25	1.6	1.95	V

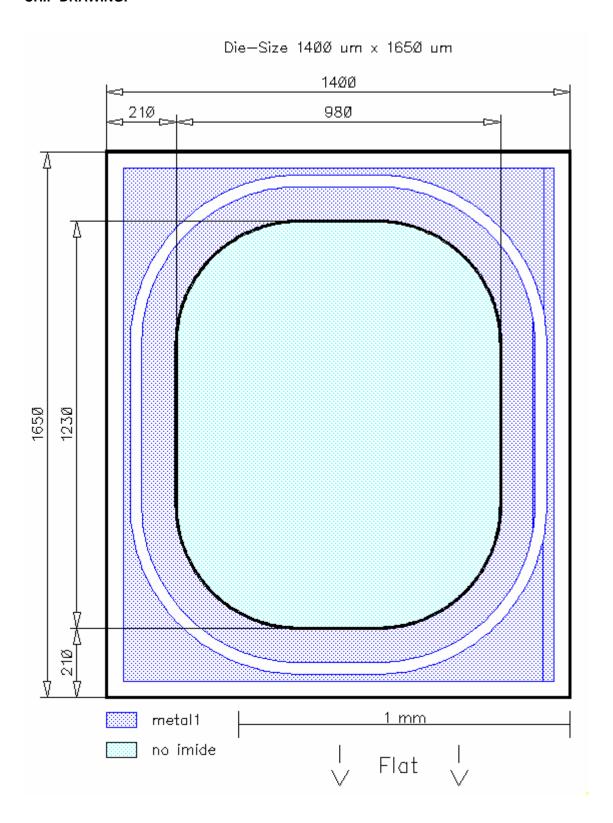
Dynamic Electrical Characteristics (verified by design/characterization), inductive load

Parameter Symbol		Candi	Conditions		Value 2)		
raiailletei	Parameter Symbol Conditions		tions	min.	Тур.	max.	Unit
Peak reverse recovery current	I _{RM}	I_F =6A di/dt=800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 \text{ °C}$ $T_j = 125 \text{ °C}$ $T_j = 150 \text{ °C}$		10.5 11.5 12.0		А
Recovered charge	Q _r	I_F =6A di/dt=800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 ^{\circ}\text{C}$ $T_j = 125 ^{\circ}\text{C}$ $T_j = 150 ^{\circ}\text{C}$		0.35 0.60 0.70		μC
Reverse recovery energy	E _{rec}	I_F =6A di/dt=800A/ms V_R =300V V_{GE} = -15V	$T_j = 25 \text{ °C}$ $T_j = 125 \text{ °C}$ $T_j = 150 \text{ °C}$		0.065 0.12 0.16		mJ

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



CHIP DRAWING:





FURTHER ELECTRICAL CHARACTERISTICS:					
This chip data sheet refers to the device data sheet	FS6R06VE3				
Description:					
AQL 0,65 for visual inspection according to failu	ire catalog				
Electrostatic Discharge Sensitive Device according to MIL-STD 883					
Test-Normen Villach/Prüffeld					

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