

Preliminary

## SIDC08D120F6

## Fast switching diode chip in EMCON-Technology

## FEATURES:

- 1200V EMCON technology 120 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 <sub>R</sub>	I <sub>F</sub>	Die Size	Package	Ordering Code
SIDC08D120F6	1200V	7A	2.2 x 3.7 mm <sup>2</sup>	sawn on foil	Q67050-A4169- A001

## **MECHANICAL PARAMETER:**

MECHANICAL FARAMETER.					
Raster size	2.2 x 3.7				
Area total / active	8.14 / 4.73	mm <sup>2</sup>			
Anode pad size	2.98 x 1.48				
Thickness	120				
Wafer size	150				
Flat position	180	deg			
Max. possible chips per wafer	1850 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				

Edited by INFINEON Technologies AI PS DD HV3, L 4355M, Edition 1, 8.01.2002



# SIDC08D120F6

## Maximum Ratings

Parameter	Symbol Condition		Value	Unit	
Repetitive peak reverse voltage	V <sub>RRM</sub>		1200	V	
Continuous forward current limited by T <sub>jmax</sub>	I <sub>F</sub>		7		
Single pulse forward current (depending on wire bond configuration)	I <sub>FSM</sub>	$t_P = 10 ms sinusoidal$	tbd	A	
Maximum repetitive forward current limited by T <sub>jmax</sub>	I <sub>FRM</sub>		14		
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.	onne
Reverse leakage current	I <sub>R</sub>	V <sub>R</sub> =1200V	<i>T<sub>j</sub></i> =25 ° <i>C</i>			27	μA
Cathode-Anode breakdown Voltage	V <sub>Br</sub>	I <sub>R</sub> =0.8mA	<i>T<sub>j</sub></i> =25°C	1200			V
Forward voltage drop	V <sub>F</sub>	I <sub>F</sub> =7A	<i>T<sub>j</sub></i> =25°C		2.1		V

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

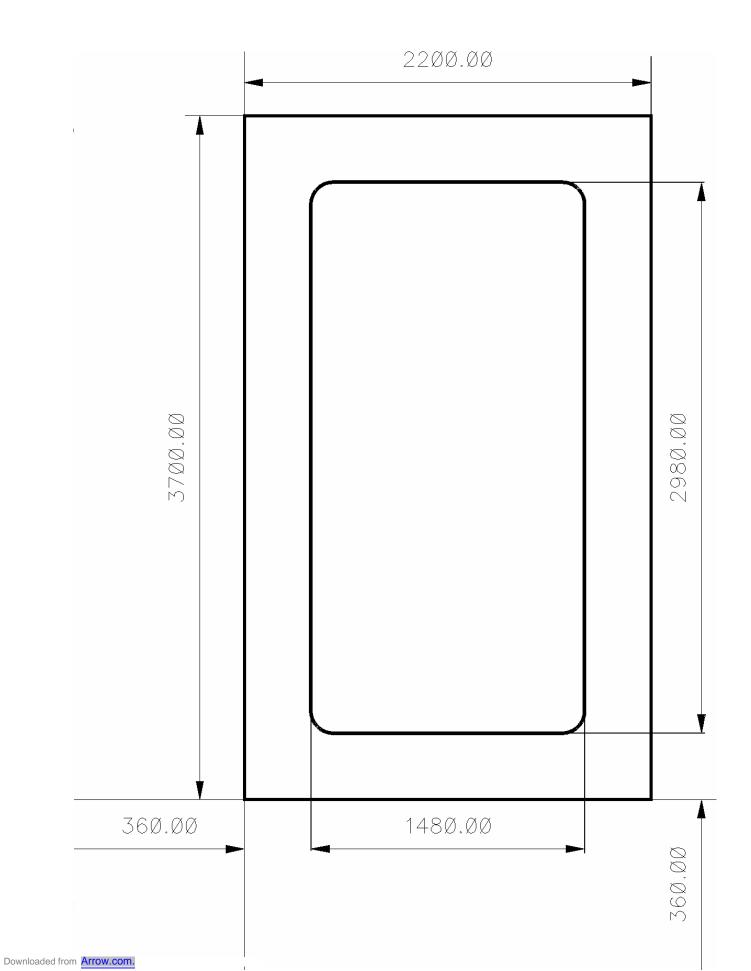
Parameter	Symbol	Conditions		Value			Unit
i alameter	Symbol			min.	Тур.	max.	
Reverse recovery time	t <sub>rr1</sub>	I <sub>F</sub> =7A	$T_j = 25 \degree C$		tbd		
	t <sub>rr2</sub>	di/dt=A/ <b>m</b> s V <sub>R</sub> =600V	$T_j = 150 ^{\circ}C$				ns
Peak recovery current	I <sub>RRM1</sub>	I <sub>F</sub> =7A	$T_j = 25 °C$		tbd		^
	I <sub>RRM2</sub>	di/dt = A/ms $V_R = 600V$	$T_j = 150 ^{\circ}C$				_ A
Reverse recovery charge	Q <sub>rr1</sub>	IF=7A	<i>T<sub>j</sub></i> =25°C		tbd		nC
	Q <sub>rr2</sub>	di/dt = A/ms $V_R = 600V$	<i>T<sub>j</sub></i> =150°C				
Peak rate of fall of reverse	di <sub>rr1</sub> /dt	I <sub>F</sub> =7A	$T_{\rm j}=25^{\circ}C$		tbd		
recovery current	di <sub>rr2</sub> /dt	di/dt = A/ms $V_R = 600V$	<i>T<sub>j</sub></i> =150°C				A/μs
Softness	S1	$I_{\rm F}=7A$	<i>T<sub>j</sub></i> =25°C		tbd		1
	S2	di/dt = A/ms $V_R = 600V$	<i>T<sub>j</sub></i> =150°C				1

Edited by INFINEON Technologies AI PS DD HV3, L 4355M, Edition 1, 8.01.2002



Preliminary

# SIDC08D120F6





Preliminary

## SIDC08D120F6

## FURTHER ELECTRICAL CHARACTERISTICS:

This chip data sheet refers to the	INFINEON TECHNOLOGIES /	thd
device data sheet	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

Published by Infineon Technologies AG Bereich Kommunikation St.-Martin-Strasse 53 D-81541 München © Infineon Technologies AG 2000 All Rights Reserved.

### Attention please!

The information herein is given to describe certain components and shall not be considered as warranted characteristics.

Terms of delivery and rights to technical change reserved.

We hereby disclaim any and all warranties, including but not limited to warranties of non-infringement, regarding circuits, descriptions and charts stated herein.

Infineon Technologies is an approved CECC manufacturer.

#### Information

For further information on technology, delivery terms and conditions and prices please contact your nearest Infineon Technologies Office in Germany or our Infineon Technologies Representatives world-wide (see address list).

### Warnings

Due to technical requirements components may contain dangerous substances. For information on the types in question please contact your nearest Infineon Technologies Office.

Infineon Technologies components may only be used in life-support devices or systems with the express written approval of Infineon Technologies, if a failure of such components can reasonably be expected to cause the failure of that life-support device or system, or to affect the safety or effectiveness of that device or system. Life support devices or systems are intended to be implanted in the human body, or to support and / or maintain and sustain and / or protect human life. If they fail, it is reasonable to assume that the health of the user or other persons may be endangered.

Edited by INFINEON Technologies AI PS DD HV3, L 4355M, Edition 1, 8.01.2002

Downloaded from Arrow.com.