Preliminary

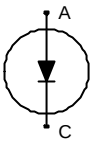
SIDC14D120E6

Fast switching diode chip in EMCON-Technology

FEATURES:
- 1200V EMCON technology 130 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	I_F	Die Size	Package	Ordering Code
SIDC14D120E6	1200V	15A	3.8 x 3.8 mm^2	sawn on foil	Q67050-A4123-A001

MECHANICAL PARAMETER:

Raster size	3.8 x 3.8	mm^2
Area total / active	14.44 / 9.8	
Anode pad size	3.08 x 3.08	
Thickness	130	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	1018 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	Al, ≤500µm	
Reject Ink Dot Size	∅ 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 4172P, Edition 1, 8.01.2002

Preliminary

SIDC14D120E6

Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		1200	V
Continuous forward current limited by T_{jmax}	I_F		15	A
Single pulse forward current (depending on wire bond configuration)	I_{FSM}	t_P = 10 ms sinusoidal	tbd	
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	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse leakage current	I_R	V_R=1200V	T_j=25°C			27	µA
Cathode-Anode breakdown Voltage	V_{Br}	I_R=1mA	T_j=25°C	1200			V
Forward voltage drop	V_F	I_F=15A	T_j=25°C		1.9		V

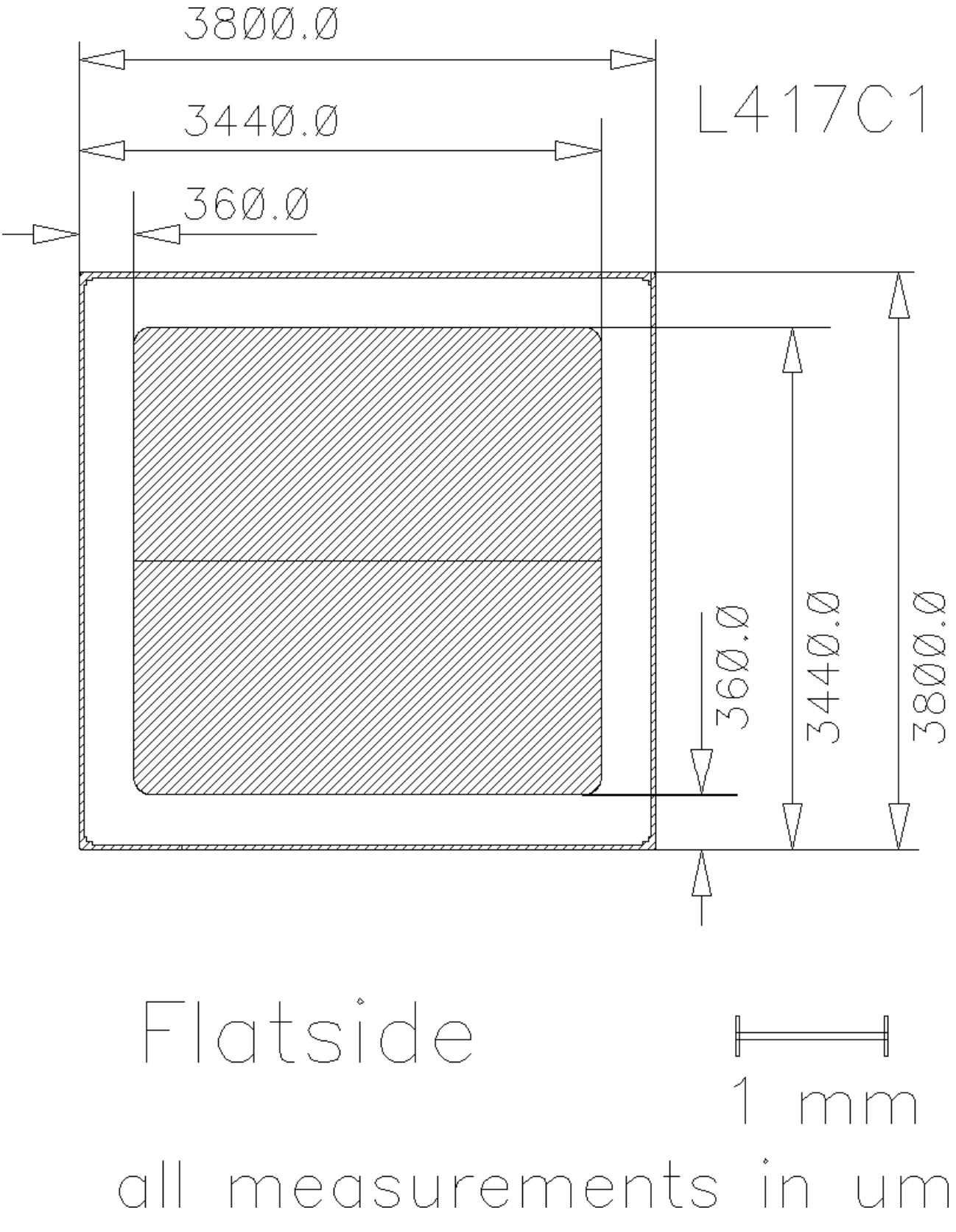
Dynamic Electrical Characteristics, at T_j = 25 °C, unless otherwise specified, tested at component

Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse recovery time	t_{rr1}	I_F=15A di/dt=390A/ms V_R=600V	T_j =25°C		tbd		ns
	t_{rr2}		T_j =125°C				
Peak recovery current	I_{RRM1}	I_F=15A di/dt=390A/ms V_R= 600V	T_j =25°C		10.9		A
	I_{RRM2}		T_j =125°C		14.5		
Reverse recovery charge	Q_{rr1}	I_F=15A di/dt=390A/ms V_R= 600V	T_j=25°C		1.45		µC
	Q_{rr2}		T_j=125°C		3.23		
Peak rate of fall of reverse recovery current	di_{rr1}/dt	I_F=15A di/dt=390A/ms V_R= 600V	T_j=25°C		tbd		A/µs
	di_{rr2}/dt		T_j=125°C				
Softness	S1	I_F=15A di/dt=390A/ms V_R= 600V	T_j=25°C		tbd		1
	S2		T_j=125°C				

Preliminary

SIDC14D120E6

CHIP DRAWING:



Preliminary

SIDC14D120E6

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

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.