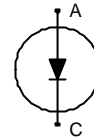# SIDC04D60F6

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	I_F	Die Size	Package	Ordering Code
SIDC04D60F6	600V	9A	1.85 x 1.85 mm^2	sawn on foil	Q67050-A4065-A001

MECHANICAL PARAMETER:

Raster size	1.85 x 1.85	
Area total / active	3.42 / 2.07	mm^2
Anode pad size	1.37 x 1.37	
Thickness	70	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	4497 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, ≤350µm	
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	

SIDC04D60F6

Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		600	V
Continuous forward current limited by T_{jmax}	I_F		9	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} (depending on wire bond configuration)	I_{FRM}		18	
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	$V_R{=}600V$	$T_j{=}25°C$			250	µA
Cathode-Anode breakdown Voltage	V_{Br}	$I_R{=}800\mu A$	$T_j{=}25°C$	600			V
Forward voltage drop	V_F	$I_F{=}9A$	$T_j{=}25°C$		1.45		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}	$I_F{=}9A$	$T_j{=}25°C$		75		ns
	t_{rr2}	$di/dt{=}800A/\mu s$ $V_R{=}400V$	$T_j{=}150°C$		112		
Peak recovery current	I_{RRM1}	$I_F{=}9A$	$T_j{=}25°C$		10.2		A
	I_{RRM2}	$di/dt{=}800A/\mu s$ $V_R{=}400V$	$T_j{=}150°C$		12.3		
Reverse recovery charge	Q_{rr1}	$I_F{=}9A$	$T_j{=}25°C$		343		nC
	Q_{rr2}	$di/dt{=}800A/\mu s$ $V_R{=}400V$	$T_j{=}150°C$		612		
Peak rate of fall of reverse recovery current	di_{rr1}/dt	$I_F{=}9A$	$T_j{=}25°C$				A/µs
	di_{rr2}/dt	$di/dt{=}800A/\mu s$ $V_R{=}400V$	$T_j{=}150°C$				
Softness	$S1$	$I_F{=}9A$	$T_j{=}25°C$		4		1
	$S2$	$di/dt{=}800A/\mu s$ $V_R{=}400V$	$T_j{=}150°C$		5.7		

CHIP DRAWING:
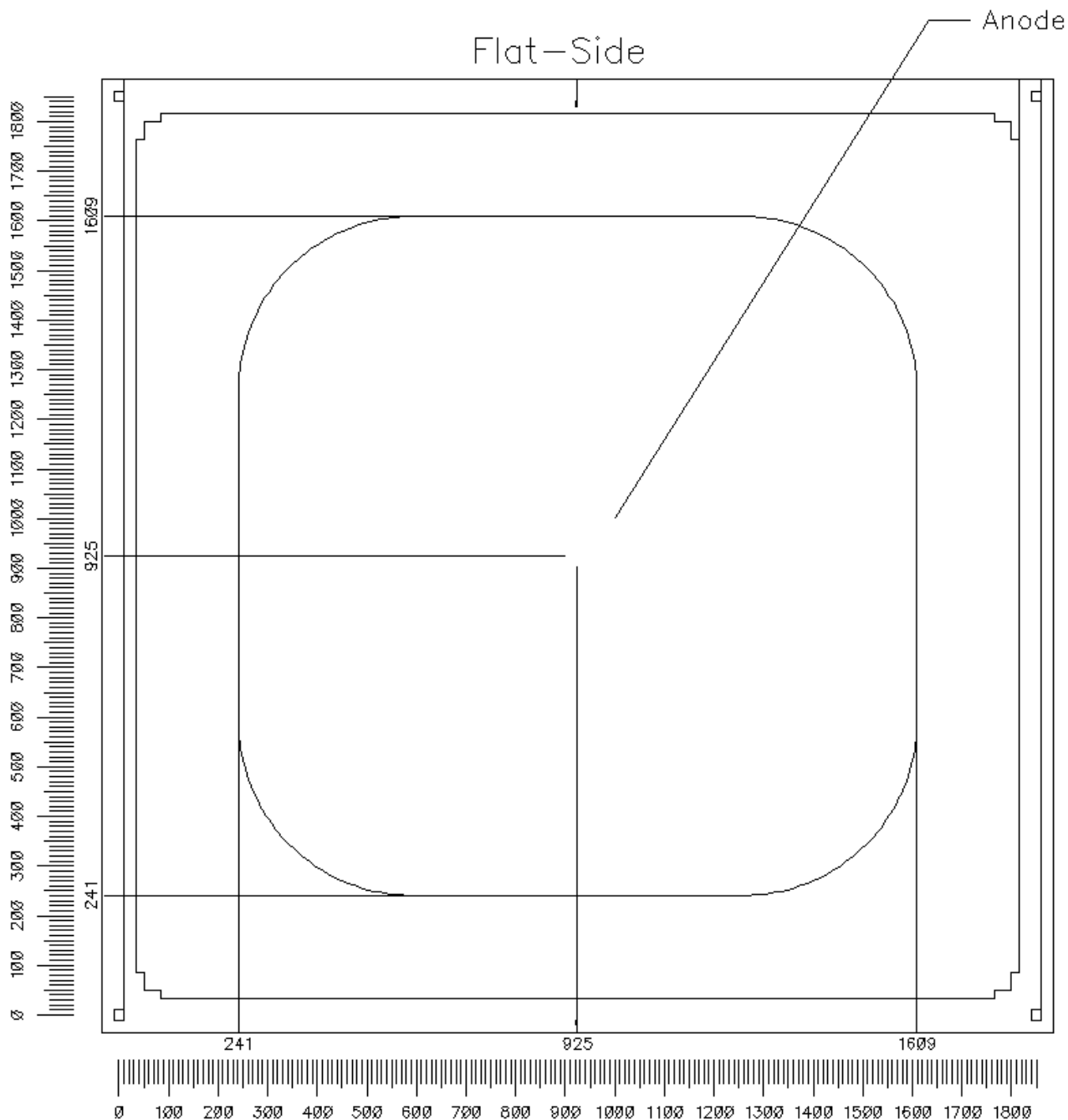
SIDC04D60F6

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