SIDC78D170H

Fast switching diode chip in EMCON 3 -Technology

FEATURES:

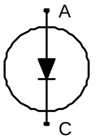
- 1700V EMCON 3 technology 200 µm chip
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:

- EUPEC power modules

Applications:

- resonant applications, drives



Chip Type	**V_R**	**I_F**	**Die Size**	**Package**	**Ordering Code**
SIDC78D170H	1700V	150A	7.35 x 10.65 mm^2	sawn on foil	Q67050-A4177-A001

MECHANICAL PARAMETER:

Raster size	7.35 x 10.65	mm^2
Area total / active	78.28 / 61.82	
Anode pad size	5.33 x 8.63	
Thickness	200	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	178 pcs	
Passivation frontside	Photoimide	
Anode metallization	3200 nm Al Si Cu	
Cathode metallization	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	

Maximum Ratings

Parameter	**Symbol**	**Condition**	**Value**	**Unit**
Repetitive peak reverse voltage	V_{RRM}		1700	V
Continuous forward current limited by T_{jmax}	I_F		150	A
Single pulse forward current (depending on wire bond configuration)	I_{FSM}	t_P = 10 ms sinusoidal	690	
Maximum repetitive forward current limited by T_{jmax}	I_{FRM}		300	
Operating junction and storage temperature	T_j , T_{stg}		-55...+150	°C

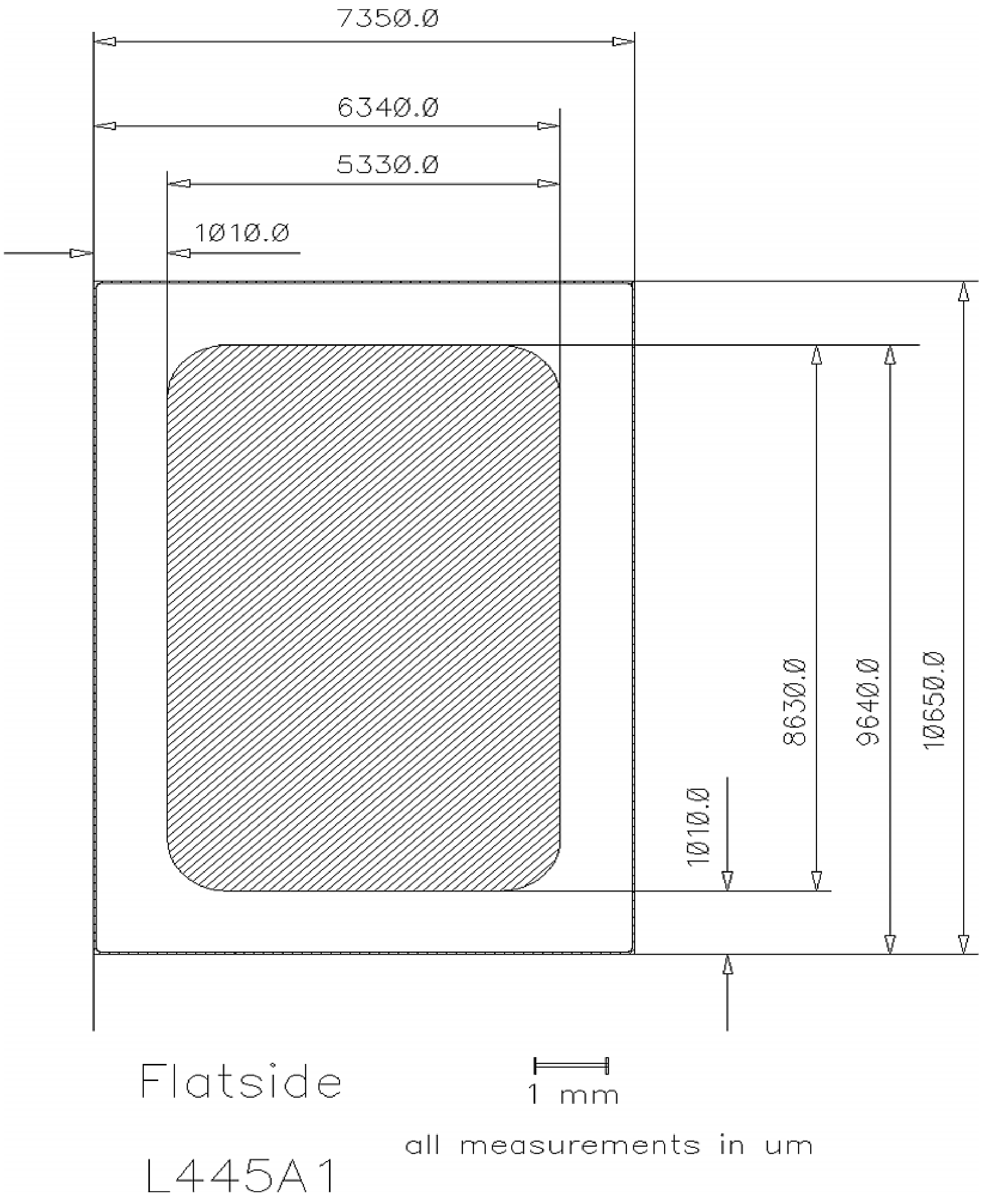
Static Electrical Characteristics (tested on chip), T_j=25 °C, unless otherwise specified

Parameter	**Symbol**	**Conditions**		**Value**			**Unit**
				min.	Typ.	max.	
Reverse leakage current	I_R	V_R=1700V	T_j=25°C			27	µA
Cathode-Anode breakdown Voltage	V_{Br}	I_R=0.25mA	T_j=25°C	1700			V
Forward voltage drop	V_F	I_F=150A	T_j=25°C		1.8		V

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

Parameter	**Symbol**	**Conditions**		**Value**			**Unit**
				min.	Typ.	max.	
Peak recovery current	I_{RRM1}	I_F=150A di/dt=730A/ms V_R=900V	T_j = 25 °C		175		A
	I_{RRM2}		T_j = 125 °C		190		
Reverse recovery charge	Q_{rr1}	I_F=150A di/dt=730A/ms V_R=900V	T_j=25°C		38.3		µC
	Q_{rr2}		T_j=125°C		65.0		
Peak recovery energy	E_{rec1}	I_F=150A di/dt=730A/ms V_R=900V	T_j=25°C		20.2		mJ
	E_{rec2}		T_j=125°C		36.7		

CHIP DRAWING:



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

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