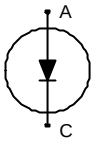
IDC73D120T6M

Diode EMCON 4 Medium Power Chip

Features:
- 1200V EMCON 4 technology
- soft, fast switching
- low reverse recovery charge
- small temperature coefficient

This chip is used for:
- low / medium power modules

Applications:
- low / medium power drives



Chip Type	V_R	I_F	Die Size	Package
IDC73D120T6M	1200V	150A	8.15 x 9.00 mm^2	sawn on foil

MECHANICAL PARAMETER:

Raster size	8.15 x 9.00	mm^2
Area total / active	73.35 / 59.89	
Anode pad size	7.196 x 8.046	
Thickness	110	µm
Wafer size	150	mm
Flat position	180	deg
Max. possible chips per wafer	187 pcs	
Passivation frontside	Photoimide	
Pad metal	3200 nm AlSiCu	
Backside metal	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	

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Maximum Ratings

Parameter	Symbol	Condition	Value	Unit
Repetitive peak reverse voltage	V_{RRM}		1200	V
Continuous forward current limited by T_{jmax}	I_F		[1]	A
Maximum repetitive forward current limited by T_{jmax}	I_{FRM}		300	
Maximum junction and storage temperature	$T_{vj,max}$, T_{stg}		-40...+175	°C
Safe operating area[2] (SOA)	P_{Max}	$I_{F,max}$ = 300A, $V_{R,max}$ = 1200V, $T_{vj,op} \leq$ 150°C	tbd	kW

[1] depending on thermal properties of assembly

[2] not subject to production test- verified by design/characterisation

Static Characteristics (tested on wafer)

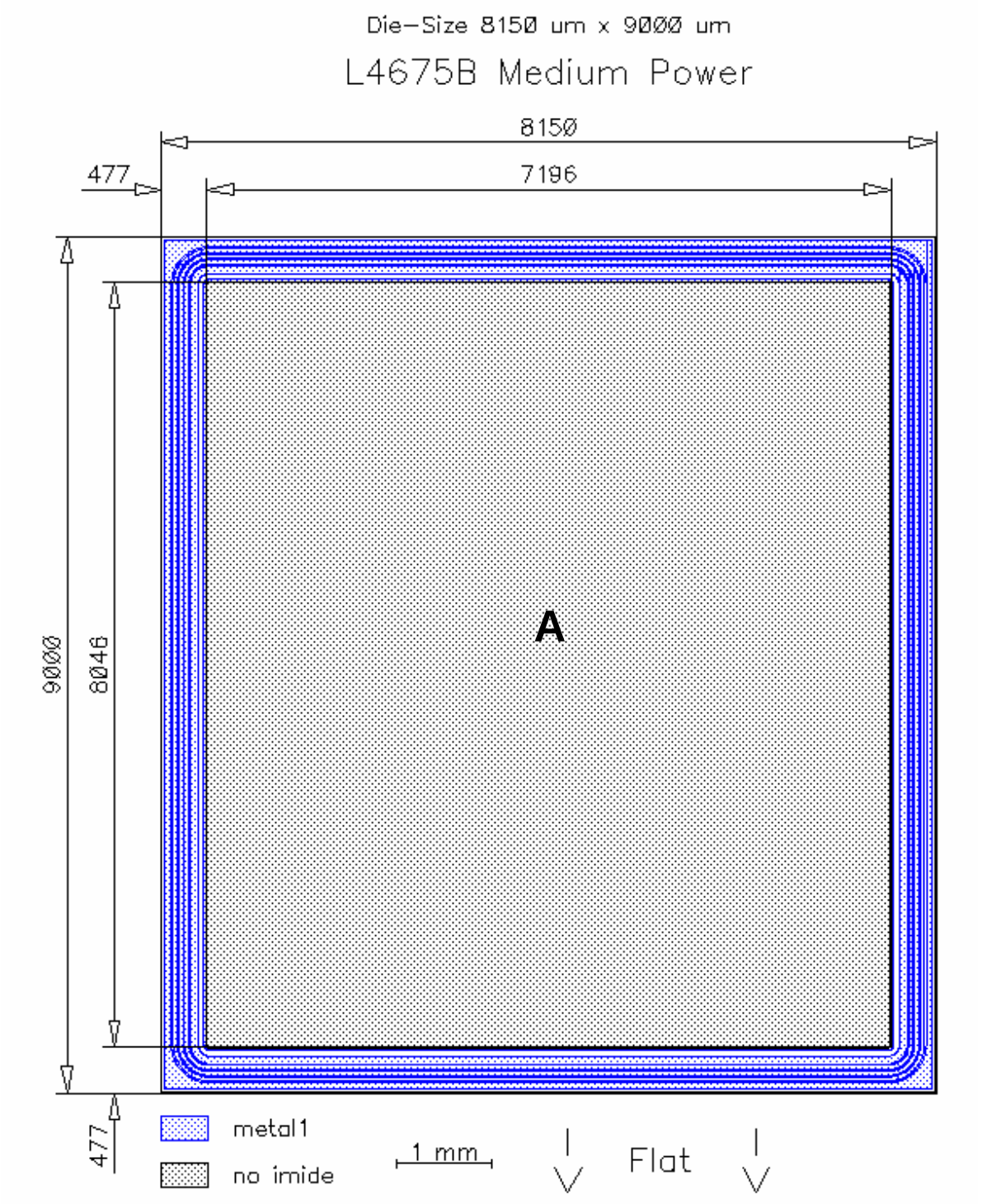
Parameter	Symbol	Conditions		Value			Unit
				min.	Typ.	max.	
Reverse leakage current	I_R	V_R=1200V	T_j=25°C			26	µA
Cathode-Anode breakdown Voltage	V_{Br}	I_R=0.25mA	T_j=25°C	1200			V
Forward voltage drop	V_F	I_F=150A	T_j=25°C	1.35	1.7	2.05	V

Dynamic Characteristics inductive load (not subject to production test - verified by design / characterization)

Parameter	Symbol	Conditions		Value [2]			Unit
				min.	Typ.	max.	
Peak reverse recovery current	I_{RM}	I_F=A di/dt=A/ms V_R=V V_{GE}=-15V	T_j = 25 °C T_j = 125 °C T_j = 150 °C		tbd		A
Reverse recovery charge	Q_r	I_F=A di/dt=A/ms V_R=V V_{GE}=-15V	T_j = 25 °C T_j = 125 °C T_j = 150 °C		tbd		µC
Reverse recovery energy	E_{rec}	I_F=A di/dt=A/ms V_R=V V_{GE}=-15V	T_j = 25 °C T_j = 125 °C T_j = 150 °C		tbd		mJ

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

CHIP DRAWING



A: anode pad

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FURTHER ELECTRICAL CHARACTERISTICS
Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.
Further technical information about the performance of this chip in module tbd is given exemplarily at www.infineon.com/igbtmodules.

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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Infineon Technologies is an approved CECC manufacturer.

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