

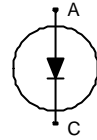
## Diode EMCON 4 Medium Power Chip

### 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 <sub>R</sub>	I <sub>F</sub>	Die Size	Package
IDC73D120T6M	1200V	150A	8.15 x 9.00 mm <sup>2</sup>	sawn on foil

### MECHANICAL PARAMETER:

Raster size	8.15 x 9.00	mm <sup>2</sup>
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	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	

## 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 <sup>2)</sup> (SOA)	$P_{Max}$	$I_{F,max} = 300A$ , $V_{R,max} = 1200V$ , $T_{vj,op} \leq 150^\circ C$	tbd	kW

<sup>1)</sup> depending on thermal properties of assembly

<sup>2)</sup> 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	$I_R$	$V_R = 1200V$	$T_j = 25^\circ C$			26	$\mu A$
Cathode-Anode breakdown Voltage	$V_{Br}$	$I_R = 0.25mA$	$T_j = 25^\circ C$	1200			V
Forward voltage drop	$V_F$	$I_F = 150A$	$T_j = 25^\circ C$	1.35	1.7	2.05	V

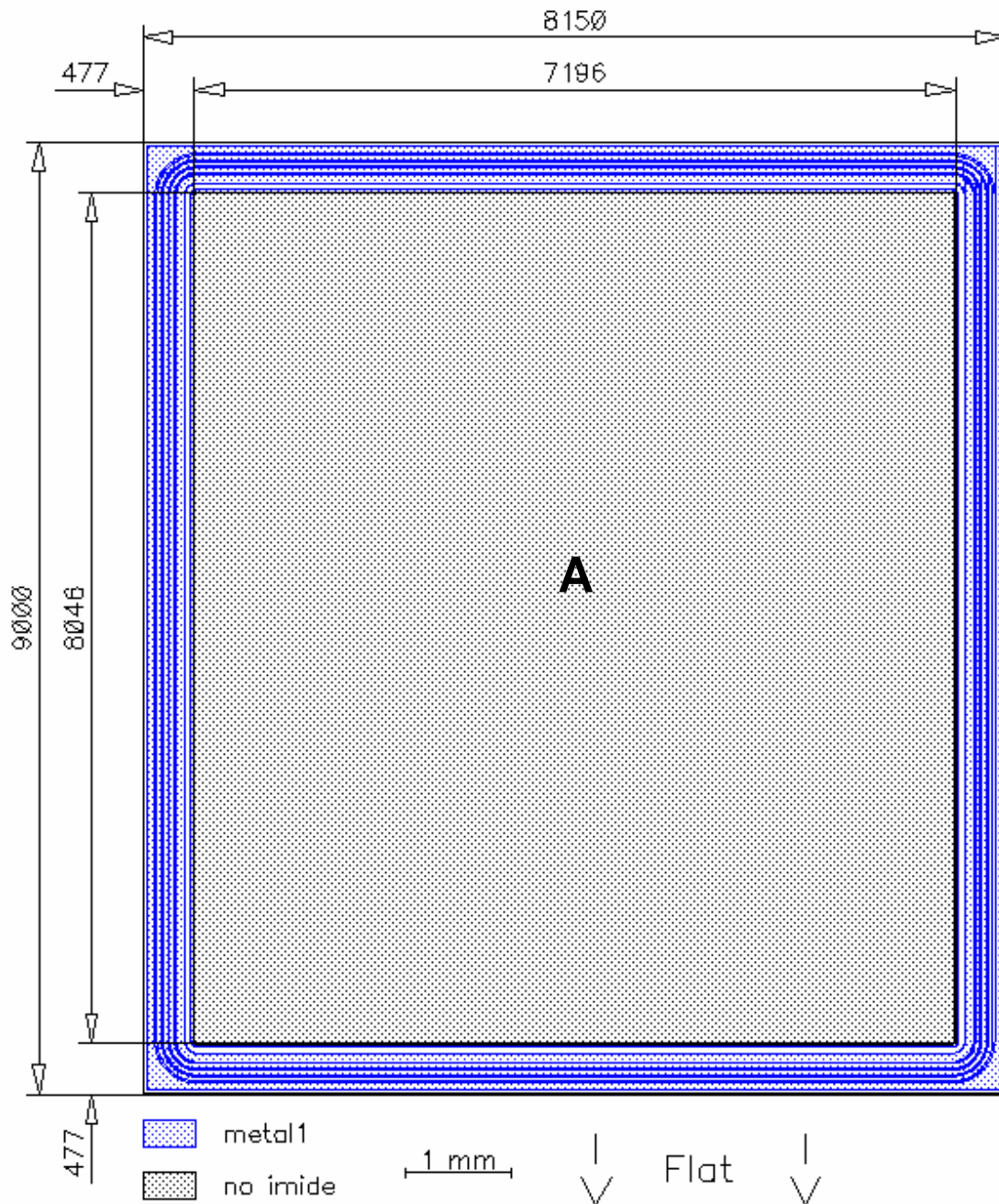
## Dynamic Characteristics inductive load (not subject to production test - verified by design / characterization)

Parameter	Symbol	Conditions		Value <sup>2)</sup>			Unit
				min.	Typ.	max.	
Peak reverse recovery current	$I_{RM}$	$I_F = A$ $di/dt = A/ms$ $V_R = V$ $V_{GE} = -15V$	$T_j = 25^\circ C$ $T_j = 125^\circ C$ $T_j = 150^\circ C$		tbd		A
Reverse recovery charge	$Q_r$	$I_F = A$ $di/dt = A/ms$ $V_R = V$ $V_{GE} = -15V$	$T_j = 25^\circ C$ $T_j = 125^\circ C$ $T_j = 150^\circ C$		tbd		$\mu C$
Reverse recovery energy	$E_{rec}$	$I_F = A$ $di/dt = A/ms$ $V_R = V$ $V_{GE} = -15V$	$T_j = 25^\circ C$ $T_j = 125^\circ C$ $T_j = 150^\circ C$		tbd		mJ

<sup>2)</sup> values also influenced by parasitic L- and C- in measurement and package.

## CHIP DRAWING

Die-Size 8150 um x 9000 um  
L4675B Medium Power



A: anode pad



# IDC73D120T6M

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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](http://www.infineon.com/igbtmodules).

## **Description**

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AQL 0,65 for visual inspection according to failure catalog

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Electrostatic Discharge Sensitive Device according to MIL-STD 883

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Test-Normen Villach/Prüffeld

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