

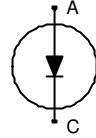
Diode EMCON 4 Medium Power Chip

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	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 ²⁾ (SOA)	P_{Max}	$I_{F,max} = 300A$, $V_{R,max} = 1200V$, $T_{vj,op} \leq 150^\circ C$	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	$V_R = 1200V$	$T_j = 25^\circ C$			26	μA
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

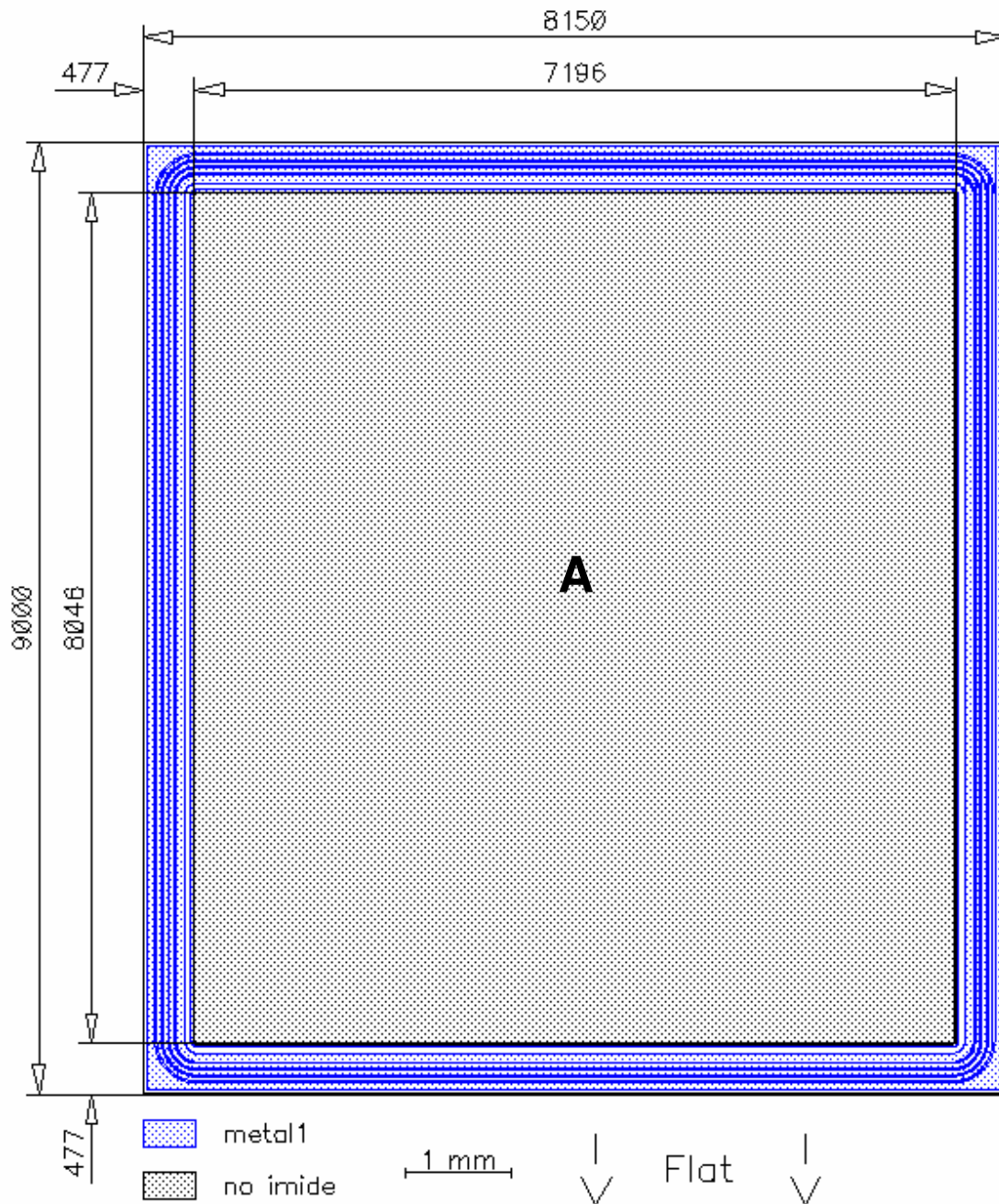
Dynamic Characteristics inductive load (not subject to production test - verified by design / characterization)

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

²⁾ 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

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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