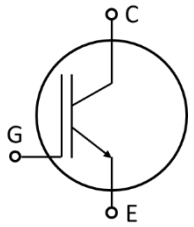
IGBT Chip

Features:

- 1200V Trench & Field stop technology
- Low switching losses and Vcesat
- Positive temperature coefficient
- Easy paralleling

Applications:

- Photovoltaic



Mechanical parameters

Die size	6.55×6.55	mm^2
Emitter pad size	See chip drawing	
Gate pad size	0.82×0.53	
Area total	42.903	
Thickness	125	μm
Wafer size	200	mm
Max. possible chips per wafer	605	
Passivation front side	Polyimide	
Pad metal	AlCu with Ti/TiN (4μm & 400A/150A)	
Backside metal	Al/Ti/Ni/Ag	

Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter voltage	V_{CE}	1200	V
DC collector current	I_C	75	A
Operating junction temperature	T_{vj}	-40 … +175	°C
Gate emitter voltage	V_{GE}	±20	V

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Static Characteristics (tested on wafer), T_{vj}=25ºC

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Collector-Emitter breakdown voltage	$V_{(BR)CES}$	V_{GE}=0V, I_C=1mA	1200			V
Collector-Emitter saturation voltage	V_{CEsat}	V_{GE}=15V, I_C=75A		1.73	2.0	
Gate-Emitter threshold voltage	$V_{GE(th)}$	I_C=2.6mA, V_{GE}= V_{CE}	5.35	5.85	6.35	
Zero gate voltage collector current	I_{CES}	V_{CE}=1200V, V_{GE}= 0V			10	μA
Gate-Emitter leakage current	I_{GES}	V_{CE}=0V, V_{GE}= 20V			100	nA
Integrated gate resistor	r_G			none		Ω
Input capacitance	C_{ies}	V_{CE}=25V, V_{GE}=0V, f=100 kHz		7.7		nF
Output capacitance	C_{oes}			0.28		
Reverse transfer capacitance	C_{res}			0.13		

Further Electrical Characteristic

Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

Application example	SD75R12A6L

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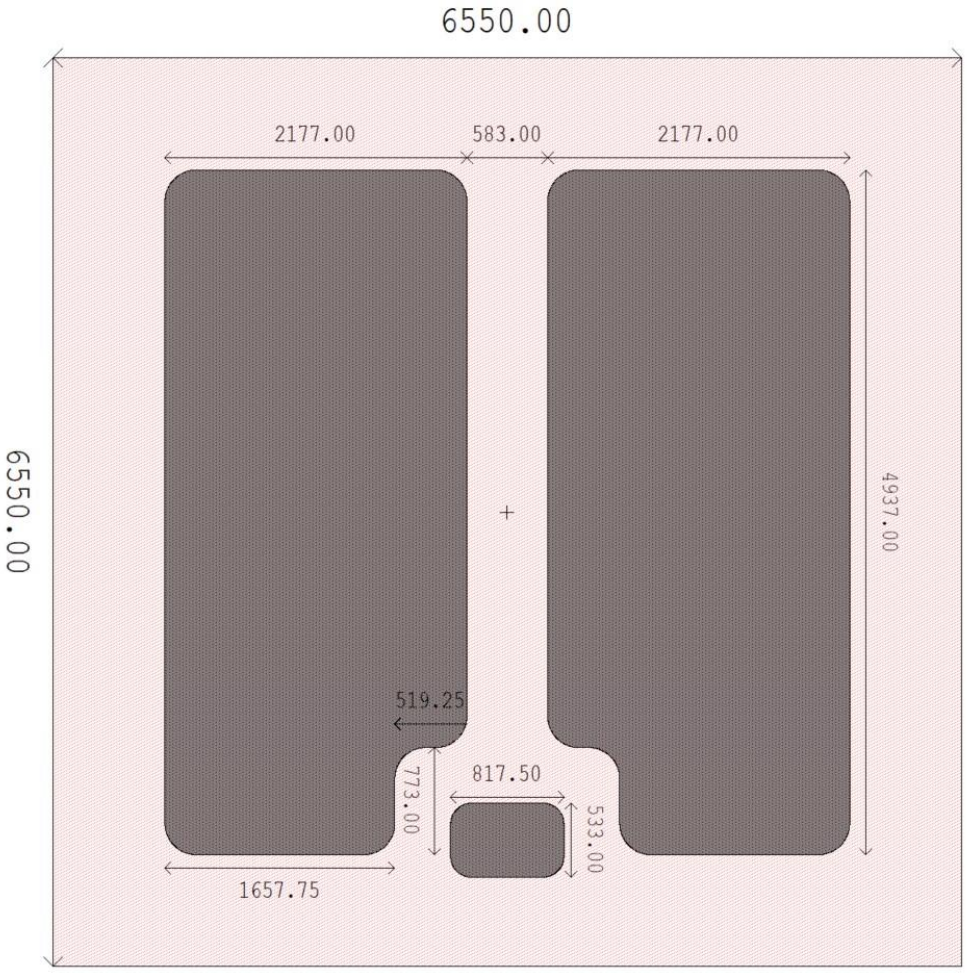
Chip Drawing



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