

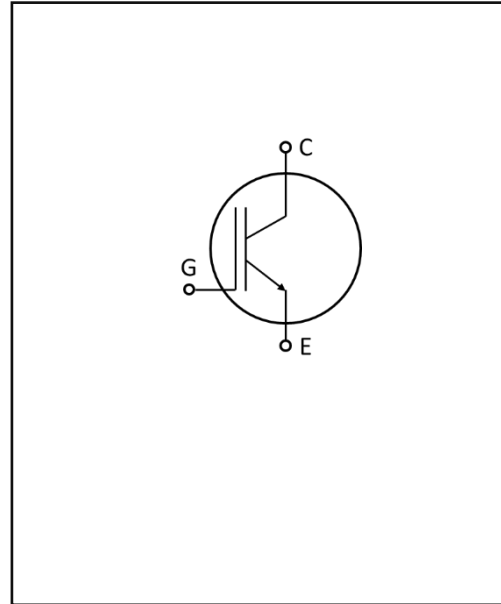
## IGBT Chip

### Features:

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

### Applications:

- Power drives



### Mechanical parameters

Die size	13.700×13.932	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.27×0.76	
Area total	190.87	
Thickness	120	μm
Wafer size	300	mm
Max. possible chips per wafer	310	
Passivation front side	Polyimide	
Pad metal	AlCu with Ti/TiN (5μm & 500A/800A)	
Backside metal	Al/Ti/Ni/Ag	

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Collector-Emitter voltage	$V_{CE}$	1200	V
DC collector current	$I_C$	225	A
Operating junction temperature	$T_{vj}$	-40 ... +175	°C
Gate emitter voltage	$V_{GE}$	±20	V
Short circuit data	tsc	10	µs

**Static Characteristics** (tested on wafer),  $T_{vj}=25^{\circ}\text{C}$ 

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Collector-Emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0\text{V}, I_C=1\text{mA}$	1200			V
Collector-Emitter saturation voltage	$V_{CEsat}$	$V_{GE}=15\text{V}, I_C=225\text{A}$		1.75	2.15	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=7.4\text{mA}, V_{GE}=V_{CE}$	5.3	5.9	6.5	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1200\text{V}, V_{GE}=0\text{V}$			10	µA
Gate-Emitter leakage current	$I_{GES}$	$V_{CE}=0\text{V}, V_{GE}=20\text{V}$			100	nA
Integrated gate resistor	$r_G^{a)}$			3.63		Ω
Input capacitance	$C_{ies}^{a)}$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$ $f=1\text{MHz}$		17.4		nF
Reverse transfer capacitance	$C_{res}^{a)}$			0.706		

<sup>a)</sup> tested on device

Chip Drawing

