

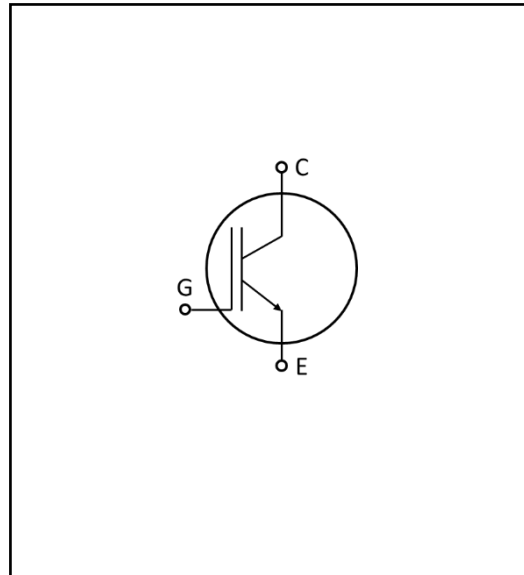
## IGBT Chip

### Features:

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

### Applications:

- Welding machine
- Induction heating



### Mechanical parameters

Die size	11.78×11.18	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.10×0.70	
Area total	131.70	
Thickness	120	μm
Wafer size	300	mm
Max. possible chips per wafer	458	
Passivation front side	Polyimide	
Pad metal	AlCu with Ti/TiN (5μm & 200A/700A)	
Backside metal	Al/Ti/Ni/Ag	

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Collector-Emitter voltage	$V_{CE}$	1200	V
DC collector current	$I_C$	150	A
Operating junction temperature	$T_{vj}$	-40 ... +175	°C
Gate emitter voltage	$V_{GE}$	±20	V

**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	$V_{CEsat}$	$V_{GE}=15\text{V}, I_C=150\text{A}$		2.10	2.50	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=5.7\text{mA}, V_{GE}=V_{CE}$	5.40	6.00	6.60	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1200\text{V}, V_{GE}=0\text{V}$			10	uA
Gate-Emitter leakage current	$I_{GES}$	$V_{CE}=0\text{V}, V_{GE}=20\text{V}$			100	nA
Integrated gate resistor	$r_G^a)$			2.92		$\Omega$
Input capacitance	$C_{ies}^a)$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$ $f=100\text{kHz}$		14.48		nF
Reverse transfer capacitance	$C_{res}^a)$			0.10		

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

**Chip Drawing**

**Unit:  $\mu\text{m}$**

