

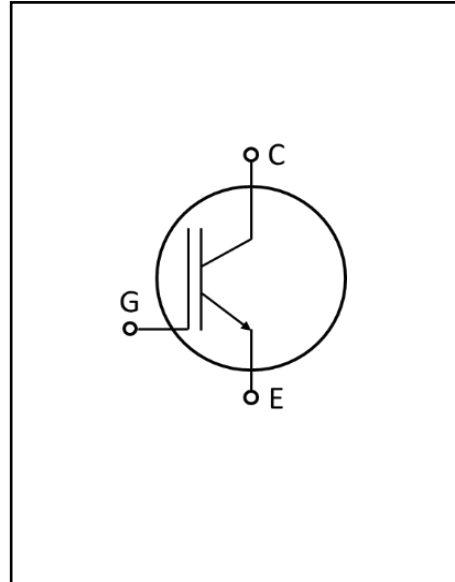
## IGBT Chip

### Features:

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

### Applications:

- Low/medium power drives
- Solar/wind inverter
- EV/HEV



### Mechanical parameters

Die size	9.88×9.88	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.115×0.634	
Area total	97.61	
Thickness	120	μm
Scribe line Size	80	
Wafer size	200	mm
Max. possible chips per wafer	256	
Passivation front side	Polyimide	
Pad metal	AlCu with Ti/TiN (4.5μm & 400A/1000A)	
Backside metal	Al/Ti/Ni/Ag	

**Maximum Ratings**

Parameter	Symbol	Value	Unit
Collector-Emitter voltage	$V_{CE}$	1200	V
DC collector current	$I_C$	100	A
Operating junction temperature	$T_{vj}$	-40 ... +175	°C
Gate emitter voltage	$V_{GE}$	±20	V
Short circuit data	$t_{SC}$	10	μs

**Electrical Characteristics,  $T_{vj}=25^{\circ}\text{C}$** 

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	$V_{CEsat}$	$V_{GE}=15V, I_C=100A$		1.85	2.25	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=3.8mA, V_{GE}=V_{CE}$	5.2	5.8	6.4	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1200V, V_{GE}=0V$			10	uA
Gate-Emitter leakage current	$I_{GES}$	$V_{CE}=0V, V_{GE}=20V$			100	nA
Integrated gate resistor	$r_G$			5.5		Ω
Input capacitance	$C_{ies}$	$V_{CE}=25V, V_{GE}=0V,$		7.42		nF
Reverse transfer capacitance	$C_{res}$	$f=1MHz$		0.28		

**Chip Drawing**

