

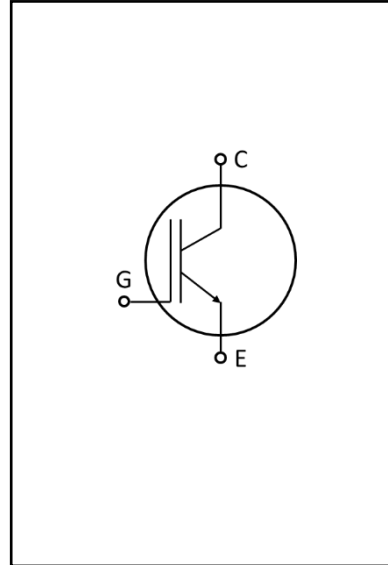
## IGBT Chip

### Features:

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

### Applications:

- Welding machine
- Induction heating



### Mechanical parameters

Die size	6.84×7.25	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.362×0.872	
Area total	49.59	μm
Thickness	120	
Scribe line Size	80	mm
Wafer size	200	
Max. possible chips per wafer	508	
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	$I_C$	50	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	$V_{(BR)CES}$	$V_{GE}=0\text{V}, I_C=1\text{mA}$	1200			V
Collector-Emitter saturation voltage	$V_{CEsat}$	$V_{GE}=15\text{V}, I_C=50\text{A}$		2.10	2.50	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=1.7\text{mA}, V_{GE}=V_{CE}$	5.2	5.8	6.4	
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	$r_G$			2.0		Ω
Input capacitance	$C_{ies}$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$		3.68		nF
Reverse transfer capacitance	$C_{res}$	$f=1\text{MHz}$		0.14		

**Chip Drawing**

