

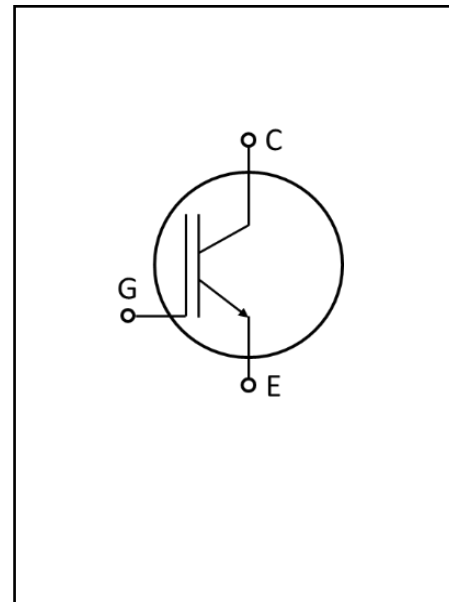
## IGBT Chip

### Features:

- 1700V Trench & Field stop technology
- Low switching losses
- Positive temperature coefficient
- Easy paralleling

### Applications:

- Power drives



### Mechanical parameters

Die size	10.78×10.78	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.49×0.77	
Area total	116.21	μm
Thickness	190	
Scribe line Size	80	
Wafer size	200	mm
Max. possible chips per wafer	208	
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	$V_{CE}$	1700	V
DC collector current	$I_C$	75	A
Operating junction temperature	$T_{vj}$	-40 ... +150	°C
Gate emitter voltage	$V_{GE}$	±20	V
Short circuit data	$t_{sc}$	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	$V_{(BR)CES}$	$V_{GE}=0\text{V}, I_C=1\text{mA}$	1700			V
Collector-Emitter saturation voltage	$V_{CEsat}$	$V_{GE}=15\text{V}, I_C=75\text{A}$		1.90	2.30	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=3\text{mA}, V_{GE}=V_{CE}$	4.9	5.5	6.1	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1700\text{V}, V_{GE}=0\text{V}$			10	µA
Gate-Emitter leakage current	$I_{GES}$	$V_{CE}=0\text{V}, V_{GE}=20\text{V}$			100	nA
Integrated gate resistor	$r_G$			8.6		Ω
Input capacitance	$C_{ies}$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$ $f=1\text{MHz}$		8.60		nF
Reverse transfer capacitance	$C_{res}$			0.25		

**Chip Drawing**

