

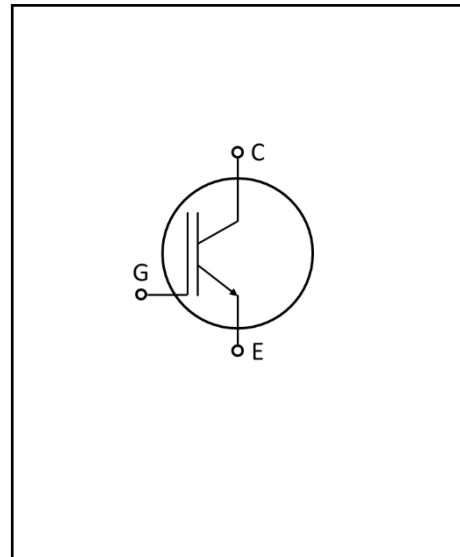
IGBT Chip

Features:

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

Applications:

- Power drives
- Inverter



Mechanical parameters

Die size	11.78×11.18	mm ²
Emitter pad size	See chip drawing	
Gate pad size	1.10×0.70	
Area total	131.70	
Thickness	120	μm
Wafer size	200	mm
Max. possible chips per wafer	192	
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
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	$V_{(BR)CES}$	$V_{GE}=0\text{V}, I_C=1\text{mA}$	1200			V
Collector-Emitter saturation voltage	V_{CEsat}	$V_{GE}=15\text{V}, I_C=150\text{A}$		1.67	2.07	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=5.7\text{mA}, V_{GE}=V_{CE}$	5.40	6.02	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	$r_G^{a)}$			0.95		Ω
Input capacitance	$C_{ies}^{a)}$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$ $f=100\text{kHz}$		23.37		nF
Reverse transfer capacitance	$C_{res}^{a)}$			0.22		

Chip Drawing

