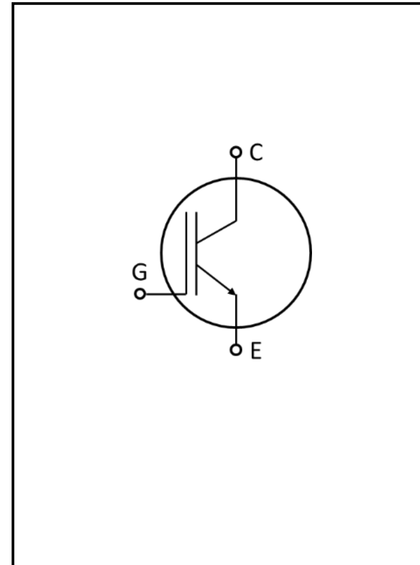
IGBT Chip

Features:

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



Applications:

- Power drives

Mechanical parameters

Parameter	Value	Unit
Die size	11.88×11.88	mm^2
Emitter pad size	See chip drawing	
Gate pad size	1.32×0.82	
Area total	141.13	
Thickness	120	µm
Scribe line Size	80	
Wafer size	200	mm
Max. possible chips per wafer	164	
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	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°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=150A		1.90	2.30	V
Gate-Emitter threshold voltage	$V_{GE(th)}$	I_C=5.3mA, V_{GE}= V_{CE}	5.2	5.8	6.4	V
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			150	nA
Integrated gate resistor	r_G			3.6		Ω
Input capacitance	C_{ies}	V_{CE}=25V, V_{GE}=0V, f=1MHz		11.35		nF
Reverse transfer capacitance	C_{res}	V_{CE}=25V, V_{GE}=0V, f=1MHz		0.40		nF

Chip Drawing