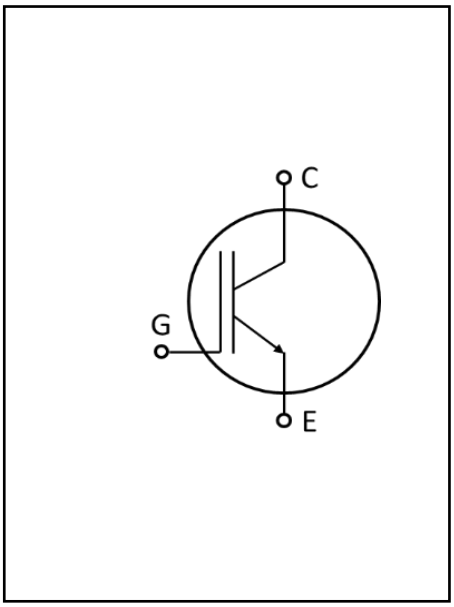
IGBT Chip



Features:

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

Applications:

- Power drives

Mechanical parameters

Die size	13.376*12.576	mm^2
Emitter pad size	See chip drawing	
Gate pad size	1.66×0.88	
Area total	168.22	
Thickness	190	μm
Scribe line Size	80	
Wafer size	200	mm
Max. possible chips per wafer	139	
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	120	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°C

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Collector-Emitter breakdown voltage	$V_{(BR)CES}$	V_{GE}=0V, I_C=1mA	1700			V
Collector-Emitter saturation voltage	V_{CEsat}	V_{GE}=15V, I_C=100A		2.1	2.5	
Gate-Emitter threshold voltage	$V_{GE(th)}$	I_C=6mA, V_{GE}= V_{CE}	5.1	5.7	6.3	
Zero gate voltage collector current	I_{CES}	V_{CE}=1700V, V_{GE}= 0V			10	uA
Gate-Emitter leakage current	I_{GES}	V_{CE}=0V, V_{GE}= 20V			150	nA
Integrated gate resistor	r_G			5.4		Ω
Input capacitance	C_{ies}	V_{CE}=25V, V_{GE}=0V, f=1MHz		13.65		nF
Reverse transfer capacitance	C_{res}			0.40		

Chip Drawing