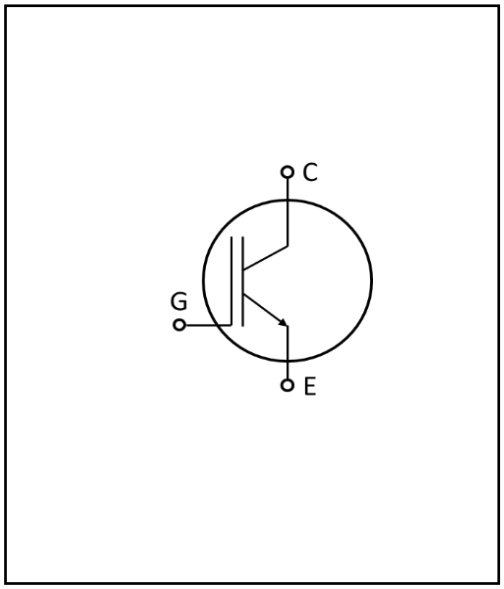
IGBT Chip



Features:

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

Applications:

- Welding machine
- Induction heating

Mechanical parameters

Die size	6.82×7.21	mm^2
Emitter pad size	See chip drawing	
Gate pad size	1.08×1.07	
Area total	49.19	
Thickness	125	μm
Wafer size	200	mm
Max. possible chips per wafer	520	
Passivation front side	Polyimide	
Pad metal	AlCu with Ti/TiN (4μm & 400A/150A)	
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 Vcc=600V，VGE=±15V，Rg=60Ω，Tj=150℃	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=50A		2.19	2.59	
Gate-Emitter threshold voltage	$V_{GE(th)}$	I_C=1.7mA, V_{GE}= V_{CE}	5.20	5.80	6.40	
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			100	nA
Integrated gate resistor	r_G a)			2.60		Ω
Input capacitance	C_{ies} a)	V_{CE}=25V, V_{GE}=0V, f=100kHz		2.99		nF
Reverse transfer capacitance	C_{res} a)			0.13		

Chip Drawing