

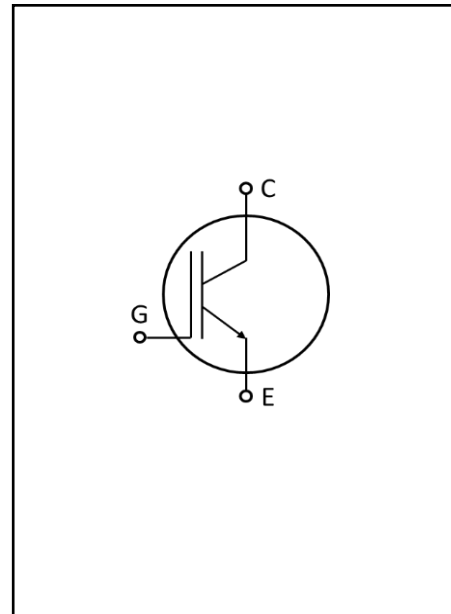
IGBT Chip

Features:

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

Applications:

- Motor drives
- Servo drives
- Inverters



Mechanical parameters

Die size	6.84×7.25	mm ²
Emitter pad size	See chip drawing	
Gate pad size	1.362×0.872	
Area total	49.59	μm
Thickness	120	
Scribe line Size	80	
Wafer size	200	mm
Max. possible chips per wafer	508	
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	50	A
Operating junction temperature	T_{vj}	-40 ... +175	°C
Gate emitter voltage	V_{GE}	±20	V
Short circuit data	t_{SC}	10	µs

Electrical Characteristics, $T_{vj}=25^{\circ}\text{C}$

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}	$V_{GE}=15V, I_C=50A$		1.90	2.30	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=1.7mA, V_{GE}=V_{CE}$	5.2	5.8	6.4	
Zero gate voltage collector current	I_{CES}	$V_{CE}=1200V, V_{GE}=0V$			10	µA
Gate-Emitter leakage current	I_{GES}	$V_{CE}=0V, V_{GE}=20V$			100	nA
Integrated gate resistor	r_G			2.0		Ω
Input capacitance	C_{ies}	$V_{CE}=25V, V_{GE}=0V,$ $f=1MHz$		3.68		nF
Reverse transfer capacitance	C_{res}			0.14		

Chip Drawing

