

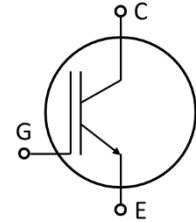
## IGBT Chip

### Features:

- 1050V Trench & Field stop technology
- Low switching losses
- Positive temperature coefficient
- Easy paralleling

### Applications:

- 3-level-applications
- Solar applications



### Mechanical parameters

Die size	9.58×9.58	mm <sup>2</sup>
Emitter pad size	See chip drawing	
Gate pad size	1.40×0.80	
Area total	91.78	
Thickness	95	μm
Wafer size	300	mm
Max. possible chips per wafer	668	
Passivation front side	Polyimide	
Pad metal	AlCu (5μm)	
Backside metal	Al/Ti/Ni/Ag (2kÅ/2kÅ/3kÅ/4kÅ)	

### Maximum Ratings

Parameter	Symbol	Value	Unit
Collector-Emitter voltage	V <sub>CE</sub>	1050	V
DC collector current	I <sub>C</sub>	200	A
Operating junction temperature	T <sub>vj</sub>	-40 ... +175 <sup>a)</sup>	°C
Gate emitter voltage	V <sub>GE</sub>	±20	V

<sup>a)</sup>T<sub>vj</sub> >150°C is allowed for operation at temporary overload conditions.

Static Characteristics (tested on wafer),  $T_{vj}=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Value			Unit
			Min.	Typ.	Max.	
Collector-Emitter breakdown voltage	$V_{(BR)CES}$	$V_{GE}=0\text{V}, I_C=1\text{mA}$	1050			V
Collector-Emitter saturation voltage	$V_{CESat}$	$V_{GE}=15\text{V}, I_C=200\text{A}$		1.40	1.80	
Gate-Emitter threshold voltage	$V_{GE(th)}$	$I_C=3.25\text{mA}, V_{GE}=V_{CE}$	4.20	4.80	5.40	
Zero gate voltage collector current	$I_{CES}$	$V_{CE}=1050\text{V}, V_{GE}=0\text{V}$			10	$\mu\text{A}$
Gate-Emitter leakage current	$I_{GES}$	$V_{CE}=0\text{V}, V_{GE}=20\text{V}$			100	nA
Integrated gate resistor	$r_G^{a)}$			1.10		$\Omega$
Input capacitance	$C_{ies}^{a)}$	$V_{CE}=25\text{V}, V_{GE}=0\text{V},$		33.32		nF
Reverse transfer capacitance	$C_{res}^{a)}$	$f=100\text{kHz}$		0.15		

<sup>a)</sup> tested on device

#### Further Electrical Characteristic

Switching characteristics and thermal properties are depending strongly on module design and mounting technology and can therefore not be specified for a bare die.

Application example	
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Chip Drawing

Unit:  $\mu\text{m}$

