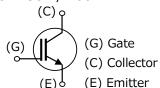


PRELIMINARY

Power Semiconductor IGBT (Insulated Gate Bipolar Transistor)

MR-Series 1250V / 200A



MMJC5B0A01**

Outline

IGBT (Bare chip) utilizes various technologies that we cultivated by analog semiconductor device production and is the product which prepared a lineup of the wide high voltage, high current which can contribute to high efficiency and saving energy.

Applications

- ·Industrial Motor Drivers
- Inverter
- Welding
- ·UPS

- ① Field Stop Trench gate IGBT
- 2 Low Collector-Emitter saturation voltage
- 3 High short circuit capability
- 4 Low swiching losses

Absolute Maximum Ratings

Tj=25deg unless otherwise noted.

Parameter	Symbol	Rating	Unit
Collector-Emitter voltage	VCES	1250	V
Gate-Emitter voltage	VGES	±30	V
Collector current *1)	IC	200	Α
Junction temperature	Tj	-40~+175	$^{\circ}$

Die Specification

Features

Item	Value	Unit
Die thickness	140	μm
Die size	11.9x11.9(141.6)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.45	μm

^{*1)}Collector current is limited by Tj(max) and thermal properties of assembly.

Electrical Characteristics

Tj=25deg unless otherwise noted.

Parameter		Symbol	Specification		Unit	condition	
		3,111501	Min	Тур	Max	0.110	condition
Zero gate voltage collector current		ICES	-	-	1	μΑ	Vce=1250V,Vge=0V
Gate-Emitter leakage current		IGES	ı	ı	±500	nA	Vge=±30V,Vce=0V
Gate-emitter threshold voltage		VGE(th)	5.00	ı	6.80	٧	Vce=10V,Ic=6.7mA
Collecter-Emitter	Tj=25℃	VCE	-	1.85	2.15	V	Ic=200A,Vge=15V
saturation voltage	Tj=175℃	(sat)	-	2.25	-	V	1C-200A, vge-15v
Input capacitance		Cies	-	20000	ı	pF	VCE=25V,VGE=0V, f=1MHz
Switching time *Reference characteristics		td(on)	-	53	-	ns	Vcc=600V,Ic=200A
		tr	-	57	-	ns	VGE=-15/+15V, Rg=5.1Ω,
		td(off)	ı	400	-	ns	Inductive load,
		tf	-	210	-	ns	Ls≒110nH
Short circuit withstand time		Tsc	10	-	-	μs	Vcc=720V,Vge=15V,Tj=150℃

E(1) E(2) E(3)

Die Dimension

E(4) 11.9

This characteristic is when it is incorporated in a mold package or evaluation board.

Depending on the assembly conditions etc., it may not be satisfied. Please note that it is not a guaranteed value.

MinebeaMitsumi Passion to Create Value through Difference



https://mtm-sec.mitsumi.co.jp/web/ic/

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- The details listed here are not a guarantee of the individual products at the time of ordering.
- When using the products, you will be asked to check their specifications.