

Power Semiconductor IGBT (Insulated Gate Bipolar Transistor)

MMJC5A5A01**

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

Absolute Maximum Ratings

I J=25deg unless otherwise noted.						
Parameter	Symbol	Rating	Unit			
Collector-Emitter voltage	VCES	1250	V			
Gate-Emitter voltage	VGES	±30	V			
Collector current *1)	IC	150	Α			
Junction temperature	Tj	-40~+175	°C			

Features

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

Die Specification

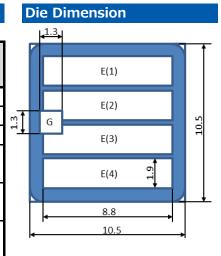
Item	Value	Unit
Die thickness	140	μm
Die size	10.5x10.5(110.3)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.45	μm

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

athomulao

Electrical Characteristics

Tj=25deg unless otherwise noted.									
Parameter		Symbol	Specification			Unit	condition		
			Min	Тур	Max	onic	contactorr		
Zero gate voltage collector current		ICES	-	-	1	μA	Vce=1250V,Vge=0V		
Gate-Emitter leakage current		IGES	-	-	±500	nA	Vge=±30V,Vce=0V		
Gate-emitter threshold voltage		VGE(th)	5.00	-	6.80	V	Vce=10V,Ic=5.0mA		
Collecter-Emitter saturation voltage	Tj=25℃	VCE	-	1.85	2.15	V	Ic=150A,Vge=15V		
	Tj=175℃	(sat)	-	2.25	-	v			
Input capacitance		Cies	-	15000	-	pF	VCE=25V,VGE=0V, f=1MHz		
Switching time *Reference characteristics		td(on)	-	45	-	ns	Vcc=600V,Ic=150A		
		tr	-	50	-	ns	VGE=-15/+15V,		
		td(off)	-	350	-	ns	Rg=6.8Ω, Inductive load,		
		tf	-	230	-	ns	Ls≒110nH		
Short circuit with	Short circuit withstand time		10	-	-	μs	Vcc=720V,Vge=15V,Tj=150℃		
This characteristic	r is when it i	sincorno	ated i	n a m	old nad	rkane	or evaluation board		



PRELIMINARY

(G) Gate

(C) Collector

(E) Emitter

(C) o

(E)

MR-Series 1250V / 150A

(G)

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

前項語

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

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.