

PRELIMINARY

Power Semiconductor Device IGBT (Insulated Gate Bipolar Transistor) MI-Series 1200V/200A LowNoise

MMJC0B0J00**

(G) Gate (C) Collector (E) Emitter

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

Features

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

Absolute Maximum Ratings

Ti=25dea unless otherwise noted.

ij zacej arness etnervise netear					
Parameter	Symbol	Rating	Unit		
Collector-Emitter voltage	VCES	1200	V		
Gate-Emitter voltage	VGES	±30	V		
Collector current *1)	IC	200	Α		
Junction temperature	Τį	-40~+175	\mathbb{C}		

Die Specification

Item	Value	Unit
Die thickness	130	μm
Die size	12.0x16.0(192.0)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.45	μm

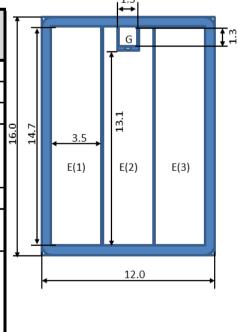
^{*1)}Collector current is limited by Tj(max) and thermal properties of assembly.

Electrical Characteristics

Tj=25deg unless otherwise noted.

Ty Eddeg armoss care mose necesi										
Parameter		Symbol	Specification		Unit	condition				
		3,111501	Min	Тур	Max	0.110	Corrainion			
Zero gate voltage collector current		ICES	-	ı	2	μΑ	Vce=1200V,Vge=0V			
Gate-Emitter leakage current		VGES	ı	ı	±500	nA	Vge=±30V,Vce=0V			
Gate-emitter threshold voltage		VGE(th)	5.20	-	6.60	V	Vce=10V,Ic=7.4mA			
Collecter-Emitter	Tj=25℃	VCE	-	1.70	2.05					
saturation	Tj=150℃	VCE	-	2.00	-	V	Ic=200A,Vge=15V			
voltage	Tj=175℃	(sat)	-	2.10	-					
Internal gate resistor		Rgint	-	3.3	-	Ω				
Input capacitance		Cies	-	17500	-	pF	VCE=25V,VGE=0V,			
Reverse transfer	capcitance	Cres	-	230	-	pF	f=100kHz			
Switching time *Reference characteristics		td(on)	-	180	-	ns	Vcc=600V,Ic=200A			
		tr	-	49	-	ns	VGE=-15/+15V,			
		td(off)	-	330	-	ns	Rg= 0.91Ω , Inductive load,			
		tf	-	160	-	ns	Ls≒100nH			
Short circuit withstand time		Tsc	10	-	-	μs	Vcc=800V,Vge=15V,Tj=150℃			

Die Dimension



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



Mitsumi

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

Mitsumi Electric CO.,LTD.

Semiconductor Business Division Strategy Engineering Department

tel:+81-46-230-3470

- Any products mentioned this leaflet are subject to any modification in their appearance and others for improvements without prior notification
- 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.