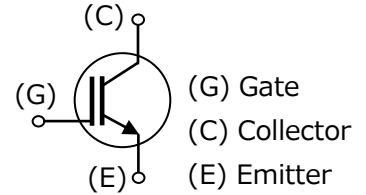


PRELIMINARY

Power Semiconductor Device IGBT (Insulated Gate Bipolar Transistor) MI-Series 1200V/100A LowNoise

MMJCOA0J00**



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 switching losses

Absolute Maximum Ratings

Tj=25deg unless otherwise noted.

Parameter	Symbol	Rating	Unit
Collector-Emitter voltage	VCES	1200	V
Gate-Emitter voltage	VGES	±30	V
Collector current *1)	IC	100	A
Junction temperature	Tj	-40~+175	°C

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

Die Specification

Item	Value	Unit
Die thickness	130	μm
Die size	9.6x10.26(98.5)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.45	μm

Electrical Characteristics

Tj=25deg unless otherwise noted.

Parameter	Symbol	Specification			Unit	condition	
		Min	Typ	Max			
Zero gate voltage collector current	ICES	-	-	1	μA	Vce=1200V,Vge=0V	
Gate-Emitter leakage current	VGES	-	-	±500	nA	Vge=±30V,Vce=0V	
Gate-emitter threshold voltage	VGE(th)	5.20	-	6.60	V	Vce=10V,Ic=3.8mA	
Collector-Emitter saturation voltage	VCE (sat)	Tj=25°C	-	1.70	2.05	V	Ic=100A,Vge=15V
		Tj=150°C	-	2.00	-		
		Tj=175°C	-	2.10	-		
Internal gate resistor	Rgint	-	7.5	-	Ω		
Input capacitance	Cies	-	8200	-	pF	VCE=25V,VGE=0V,	
Reverse transfer capacitance	Cres	-	105	-	pF	f=100kHz	
Switching time *Reference characteristics	td(on)	-	120	-	ns	Vcc=600V,Ic=100A VGE=-15/+15V, Rg=1.5Ω, Inductive load, Ls≒100nH	
	tr	-	37	-	ns		
	td(off)	-	250	-	ns		
	tf	-	175	-	ns		
Short circuit withstand time	Tsc	10	-	-	μs	Vcc=800V,Vge=15V,Tj=150°C	

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.

Die Dimension

