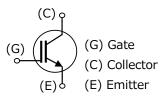


## **PRELIMINARY**

Power Semiconductor IGBT (Insulated Gate Bipolar Transistor)

MR-Series 650V / 100A LowVCEsat

# MMJ65A0A02\*\*



#### **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 St

- 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	650	V
Gate-Emitter voltage	VGES	±30	٧
Collector current *1)	IC	100	Α
Junction temperature	Tj	-40~+175	$^{\circ}$

#### **Die Specification**

Item	Value	Unit
Die thickness	90	μm
Die size	7.8x7.8(60.8)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.25	μm

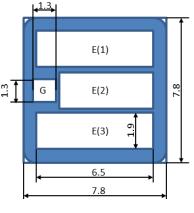
<sup>\*1)</sup>Collector current is limited by Tj(max) and thermal properties of assembly.

#### **Electrical Characteristics**

Tj=25deg unless otherwise noted.

Parameter		Symbol	Specification		Unit	condition	
		3,111501	Min	Тур	Max	O i ii c	condition
Zero gate voltage collector current		ICES	-	-	1	μΑ	Vce=650V,Vge=0V
Gate-Emitter leakage current		IGES	-	ı	±500	nA	Vge=±30V,Vce=0V
Gate-emitter threshold voltage		VGE(th)	5.00	-	6.80	V	Vce=10V,Ic=2.0mA
Collecter-Emitter	Tj=25℃	VCE	-	1.3	1.6	٧	Ic=100A,Vge=15V
saturation voltage	Tj=175℃	(sat)	-	1.5	-		
Input capacitance		Cies	-	8000	-	pF	VCE=25V,VGE=0V,
Reverse transfer capcitance		Cres	-	300	-	pF	f=1MHz
Switching time *Reference characteristics		td(on)	-	50	-	ns	Vcc=300V,Ic=100A
		tr	-	50	-	ns	VGE=-15/+15V,
		td(off)	-	300	-	ns	Rg=10.0Ω, Inductive load,
		tf	-	300	-	ns	Ls≒100nH
Short circuit withstand time		Tsc	10	-	-	μs	Vcc=360V,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 Passion to Create Value through Difference



Mitsumi Q Search

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.