

Power Semiconductor IGBT (Insulated Gate Bipolar Transistor)

# MMJC075G00\*\*

#### 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	1200	V			
Gate-Emitter voltage	VGES	±30	V			
Collector current *1)	IC	75	Α			
Junction temperature	Tj	-40~+175	°C			

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#### 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	130	μm
Die size	7.8x9.0(70.2)	mm
Front metal(AlSi)	6.5	μm
Backside metal(AlSi/Ti/Ni/Au)	1.45	μm

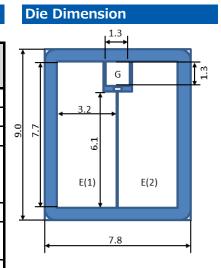
\*1)Collector current is limited by Tj(max) and thermal properties of assembly.

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## **Electrical Characteristics**

Tj=25deg unless otherwise noted.								
Parameter		Symbol	Specification		Unit	condition		
			Min	Тур	Max	orme	contactori	
Zero gate voltage collector current		ICES	-	-	1	μA	Vce=1200V,Vge=0V	
Gate-Emitter leakage current		IGES	-	-	±500	nA	Vge=±30V,Vce=0V	
Gate-emitter threshold voltage		VGE(th)	5.20	-	6.60	V	Vce=10V,Ic=2.6mA	
Collecter-Emitter	Tj=25℃		-	1.95	2.30	V		
saturation	Tj=150℃	VCE (sat)	-	2.35	-		Ic=75A,Vge=15V	
voltage	Tj=175℃	(Sat)	-	2.40	-			
Internal gate resistor		Rgint	-	10.0	-	Ω		
Input capacitance		Cies	-	6600	-	pF	VCE=25V,VGE=0V, f=100kHz	
Reverse transfer capcitance		Cres	-	75	-	pF		
Switching time *Reference characteristics		td(on)	-	130	-	ns	Vcc=600V,Ic=75A VGE=-15/+15V, Rg=2.2Ω, Inductive load,	
		tr	-	28	-	ns		
		td(off)	-	200	-	ns		
		tf	-	160	-	ns	Ls≒100nH	
Short circuit withstand time		Tsc	10	-	-	μs	Vcc=800V,Vge=15V,Tj=150℃	



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.

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

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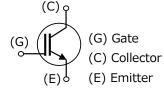
Any products mentioned this leaflet are subject to any modification in their appearance and others for improvements without p rior notification

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.

## Feb 2022 Rev.0

MI-Series 1200V / 75A HighSpeed



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