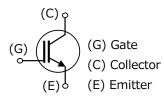


PRELIMINARY

Power Semiconductor IGBT (Insulated Gate Bipolar Transistor)

MI-Series 1200V / 100A HighSpeed

MMJC0A0G00**



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

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 | Α |
| Junction temperature | Tj | -40~+175 | ပ |

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 |

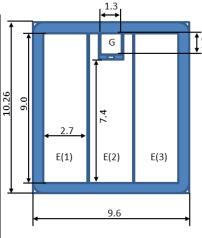
^{*1)}Collector current is limited by Tj(max) and thermal properties of assembly.

Electrical Characteristics

Tj=25deg unless otherwise noted.

| Parameter | | Symbol | Specification | | Unit | condition | | |
|---|---------|--------------|---------------|------|------|-----------|-----------------------------|--|
| | | Symbol | Min | Тур | Max | 01 | Corrainion | |
| Zero gate voltage collector current | | ICES | - | - | 1 | μΑ | 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=3.8mA | |
| Collecter-Emitter | Tj=25℃ | VCE | - | 1.95 | 2.30 | V | | |
| saturation | Tj=150℃ | VCE (sat) | - | 2.35 | - | | Ic=100A,Vge=15V | |
| voltage | Tj=175℃ | | - | 2.40 | - | | | |
| Internal gate resistor | | Rgint | - | 7.5 | - | Ω | | |
| Input capacitance | | Cies | - | 9600 | - | pF | VCE=25V,VGE=0V, | |
| Reverse transfer capcitance | | Cres | - | 105 | - | pF | f=100kHz | |
| Switching time *Reference characteristics | | td(on) | - | 140 | - | ns | Vcc=600V,Ic=100A | |
| | | tr | - | 29 | - | ns | VGE=-15/+15V, | |
| | | td(off) | ı | 220 | - | ns | Rg=1.5Ω, Inductive load, | |
| | | tf | - | 150 | - | 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 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.