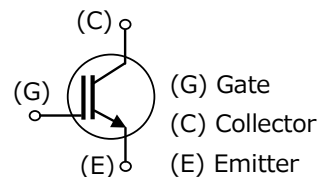




MMJC075G00**



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

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

T_j=25deg unless otherwise noted.

| Parameter | Symbol | Rating | Unit |
|---------------------------|------------------|----------|------|
| Collector-Emitter voltage | V _{CES} | 1200 | V |
| Gate-Emitter voltage | V _{GES} | ±30 | V |
| Collector current *1) | I _C | 75 | A |
| Junction temperature | T _j | -40~+175 | °C |

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

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 |

Electrical Characteristics

T_j=25deg unless otherwise noted.

| Parameter | Symbol | Specification | | | Unit | condition | |
|--|----------------------|-----------------------|------|------|------|--|---|
| | | Min | Typ | Max | | | |
| Zero gate voltage collector current | I _{CES} | - | - | 1 | μA | V _{ce} =1200V, V _{ge} =0V | |
| Gate-Emitter leakage current | I _{GES} | - | - | ±500 | nA | V _{ge} =±30V, V _{ce} =0V | |
| Gate-emitter threshold voltage | V _{GE(th)} | 5.20 | - | 6.60 | V | V _{ce} =10V, I _c =2.6mA | |
| Collector-Emitter saturation voltage | V _{CE(sat)} | T _j =25°C | - | 1.95 | 2.30 | V | I _c =75A, V _{ge} =15V |
| | | T _j =150°C | - | 2.35 | - | | |
| | | T _j =175°C | - | 2.40 | - | | |
| Internal gate resistor | R _{gint} | - | 10.0 | - | Ω | | |
| Input capacitance | C _{ies} | - | 6600 | - | pF | V _{CE} =25V, V _{GE} =0V, f=100kHz | |
| Reverse transfer capacitance | C _{res} | - | 75 | - | pF | | |
| Switching time *Reference characteristics | t _{d(on)} | - | 130 | - | ns | V _{cc} =600V, I _c =75A | |
| | t _r | - | 28 | - | ns | V _{GE} =-15/+15V, R _g =2.2Ω, Inductive load, L _s ≒100nH | |
| | t _{d(off)} | - | 200 | - | ns | | |
| | t _f | - | 160 | - | ns | | |
| Short circuit withstand time | T _{sc} | 10 | - | - | μs | V _{cc} =800V, V _{ge} =15V, T _j =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

