

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

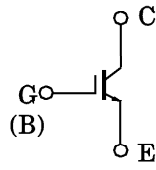
MG150J1BS11

HIGH POWER SWITCHING APPLICATIONS

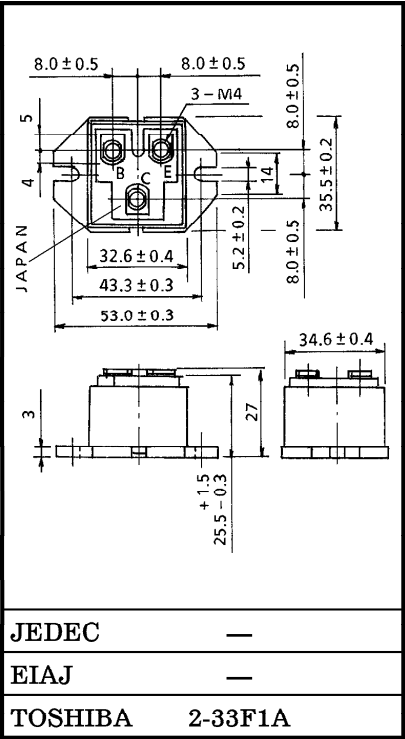
MOTOR CONTROL APPLICATIONS

- High Input Impedance
- High Speed : $t_f=1.0\mu s$ (Max.) ($I_C=150A$)
- Low Saturation Voltage : $V_{CE(sat)}=2.7V$ (Max.) ($I_C=150A$)
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Unit in mm



| | |
|---------|---------|
| JEDEC | — |
| EIAJ | — |
| TOSHIBA | 2-33F1A |

MAXIMUM RATINGS (Ta = 25°C)

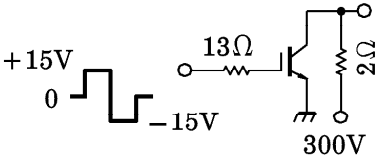
Weight : 86g

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|------------------------------------|-----|------------|-----------------------|------|
| Collector-Emitter Voltage | | V_{CES} | 600 | V |
| Gate-Emitter Voltage | | V_{GES} | ± 20 | V |
| Collector Current | DC | I_C | 150 | A |
| | 1ms | I_{CP} | 300 | |
| Collector Power Dissipation | | P_C | 450 | W |
| Junction Temperature | | T_j | 150 | °C |
| Storage Temperature Range | | T_{stg} | -40~125 | °C |
| Isolation Voltage | | V_{Isol} | 2500 (AC 1 minute) | V |
| Screw Torque (Terminal / Mounting) | | — | 2 / 3 | N·m |

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|-----------|--|------|-------|-------|--------|
| Gate Leakage Current | | IGES | VGE = ±20V, VCE = 0 | — | — | ±500 | nA |
| Collector Cut-Off Current | | ICES | VCE = 600V, VGE = 0 | — | — | 1.0 | mA |
| Gate-Emitter Cut-Off Voltage | | VGE (off) | VCE = 5V, IC = 150mA | 3.0 | — | 6.0 | V |
| Collector-Emitter Saturation Voltage | | VCE (sat) | IC = 150A, VGE = 15V | — | 2.3 | 2.7 | V |
| Input Capacitance | | Cies | VCE = 10V, VGE = 0, f = 1MHz | — | 12000 | — | pF |
| Switching Time | Rise Time | tr |  | — | 0.3 | 0.8 | μs |
| | Turn-On Time | ton | | — | 0.4 | 1.0 | |
| | Fall Time | tf | | — | 0.6 | 1.0 | |
| | Turn-Off Time | toff | | — | 1.0 | 1.6 | |
| Thermal Resistance | | Rth (j-c) | | — | — | 0.278 | °C / W |

