

TOSHIBA GTR MODULE SILICON N-CHANNEL IGBT

MG100J1BS11

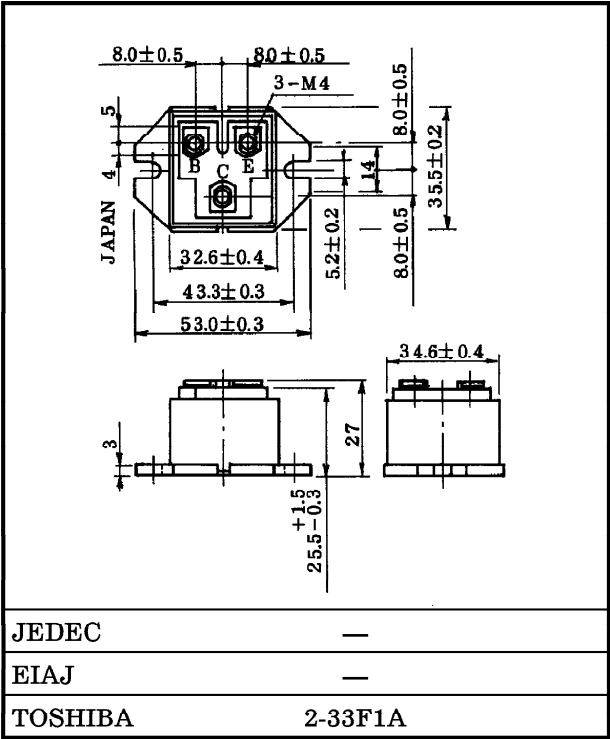
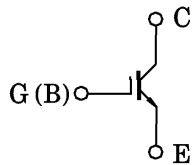
HIGH POWER SWITCHING APPLICATIONS.

Unit in mm

MOTOR CONTROL APPLICATIONS.

- High Input Impedance
- High Speed :  $t_f=1.0\mu s$  (Max.) ( $I_C=100A$ )
- Low Saturation Voltage  
:  $V_{CE(sat)}=2.7V$  (Max.) ( $I_C=100A$ )
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Weight : 86g

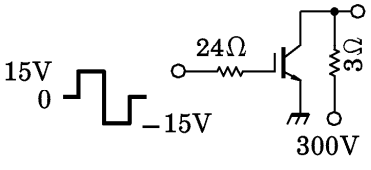
MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC                          |     | SYMBOL     | RATING             | UNIT |
|-----------------------------------------|-----|------------|--------------------|------|
| Collector-Emitter Voltage               |     | $V_{CES}$  | 600                | V    |
| Gate-Emitter Voltage                    |     | $V_{GES}$  | $\pm 20$           | V    |
| Collector Current                       | DC  | $I_C$      | 100                | A    |
|                                         | 1ms | $I_{CP}$   | 200                |      |
| Collector Power Dissipation (Tc = 25°C) |     | $P_C$      | 300                | 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 = 100mA                                                               | 3.0  | —    | 6.0  | V      |
| Collector-Emitter Saturation Voltage |               | VCE(sat) | IC = 100A, VGE = 15V                                                               | —    | 2.3  | 2.7  | V      |
| Input Capacitance                    |               | Cies     | VCE = 10V, VGE = 0, f = 1MHz                                                       | —    | 8200 | —    | 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) | —                                                                                  | —    | —    | 0.41 | °C / W |

