

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

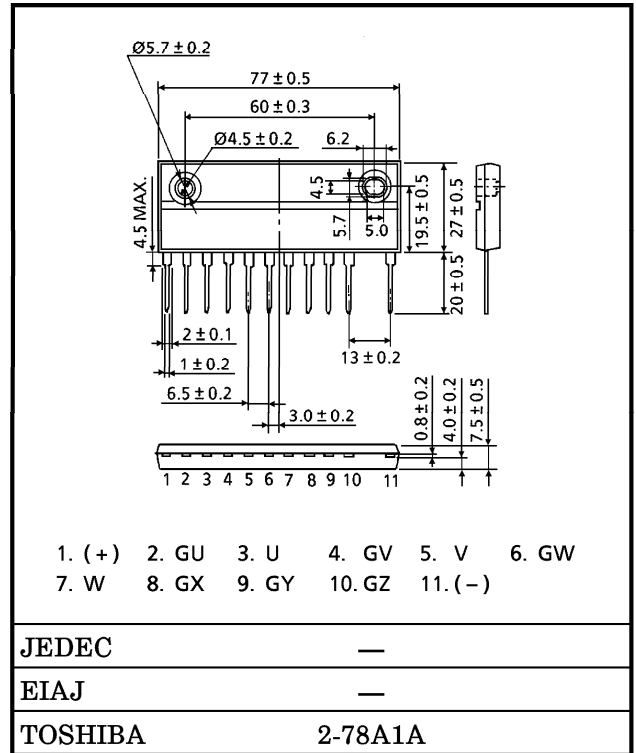
MP6757

Unit in mm

HIGH POWER SWITCHING APPLICATIONS

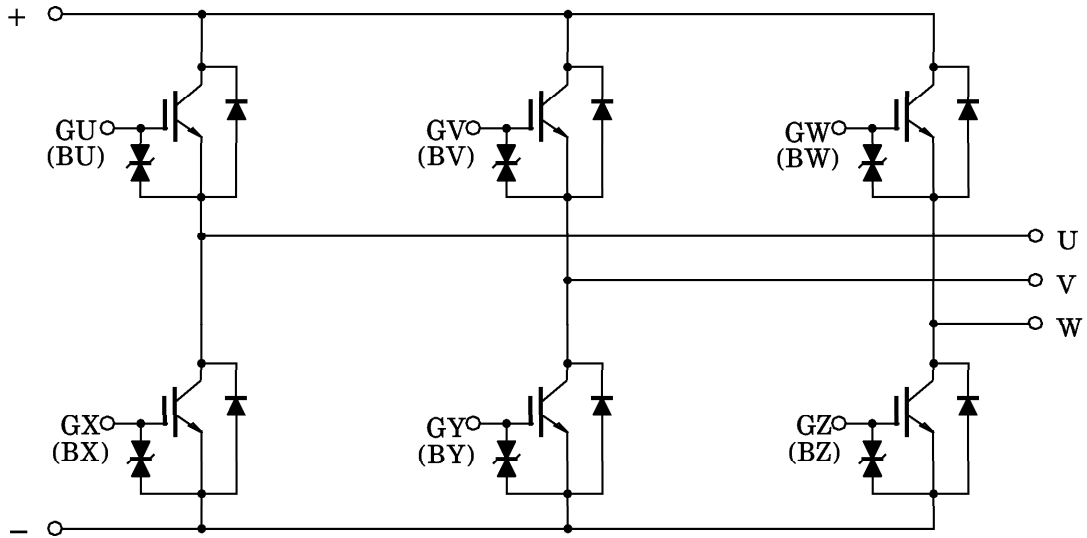
MOTOR CONTROL APPLICATIONS

- The electrodes are isolated from case.
- 6 IGBTs and 6 free wheeling diodes are built into 1 package.
- Enhancement-mode
- High speed : $t_f = 0.35 \mu s$ (Max.) ($I_C = 25 A$)
 : $t_{rr} = 0.15 \mu s$ (Max.) ($I_F = 25 A$)



Weight : 44 g

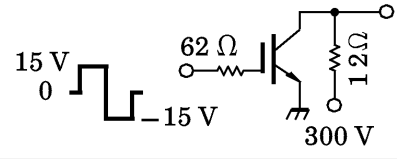
EQUIVALENT CIRCUIT

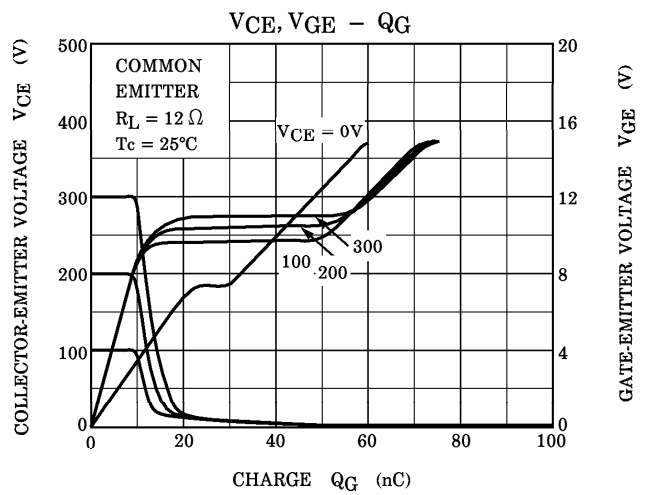
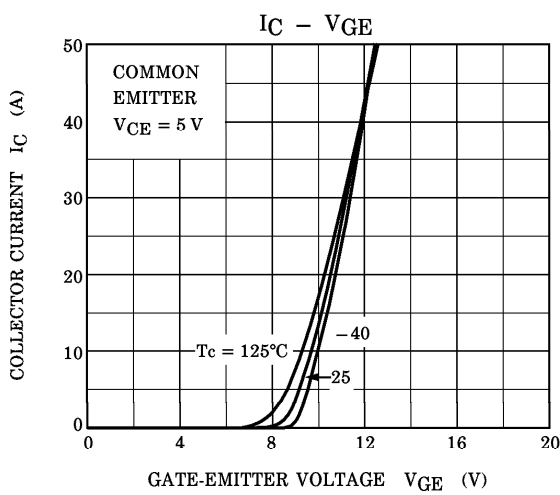
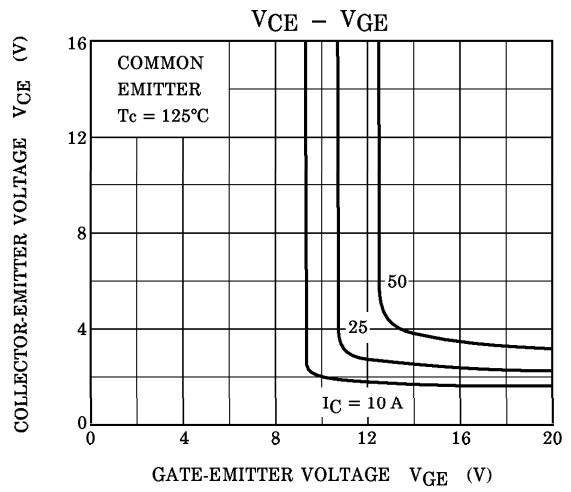
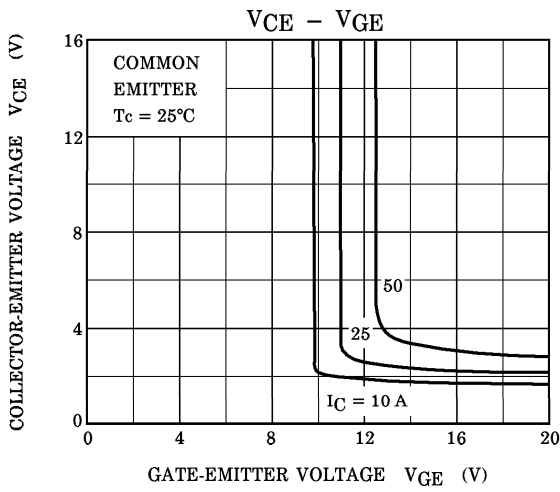
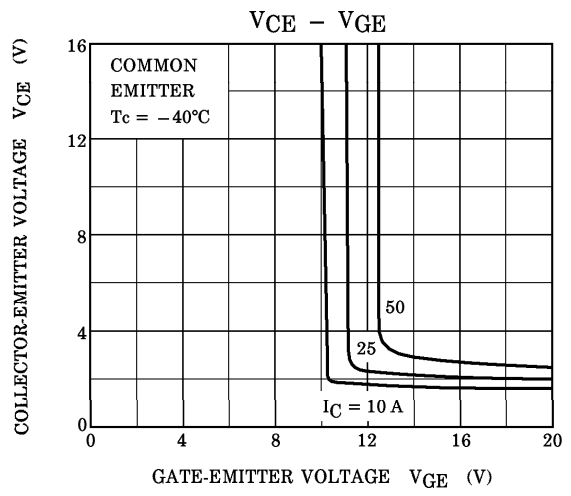
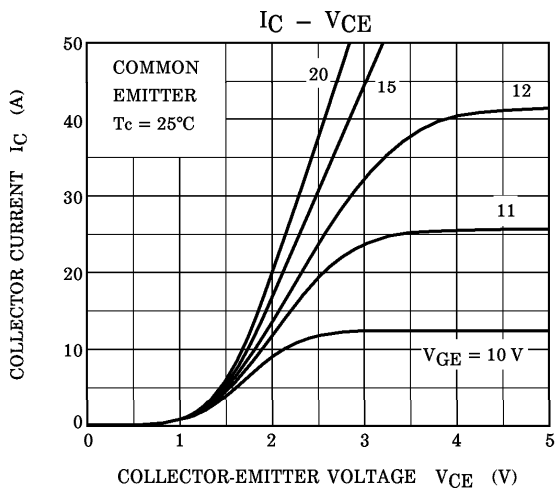


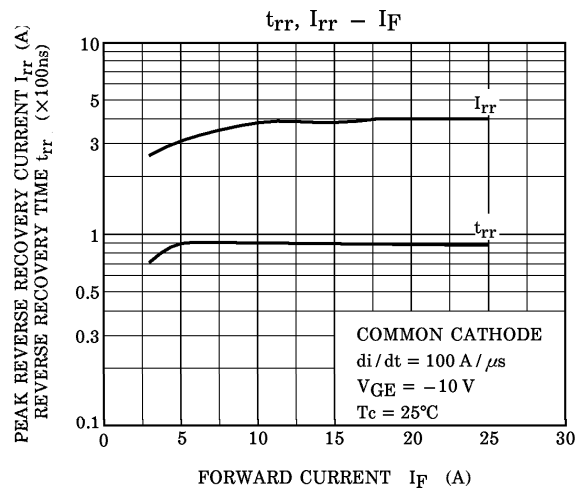
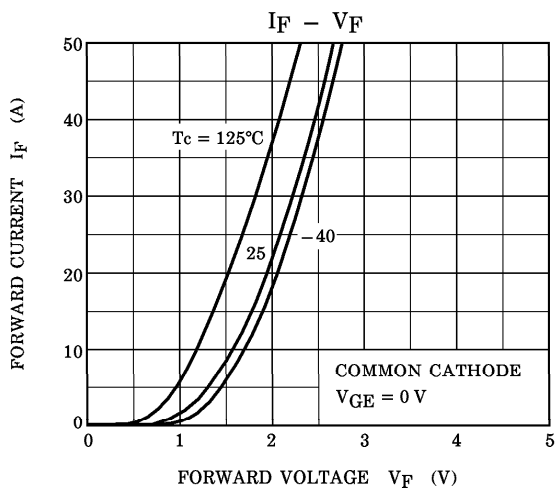
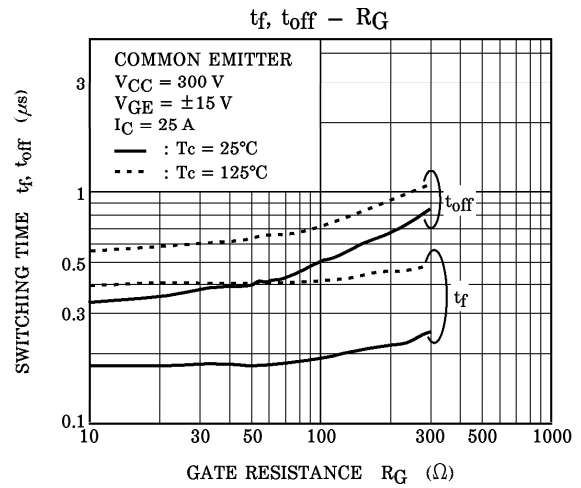
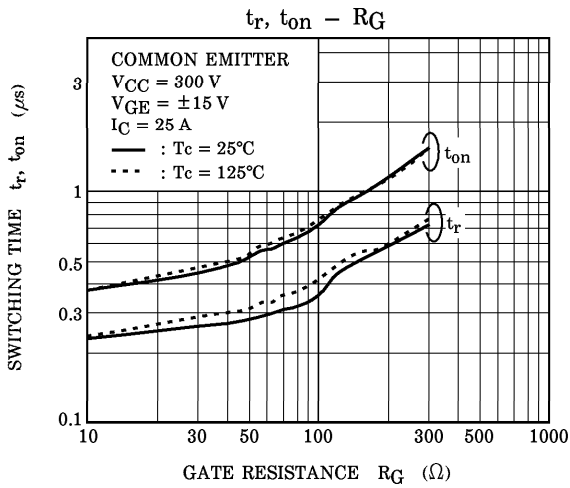
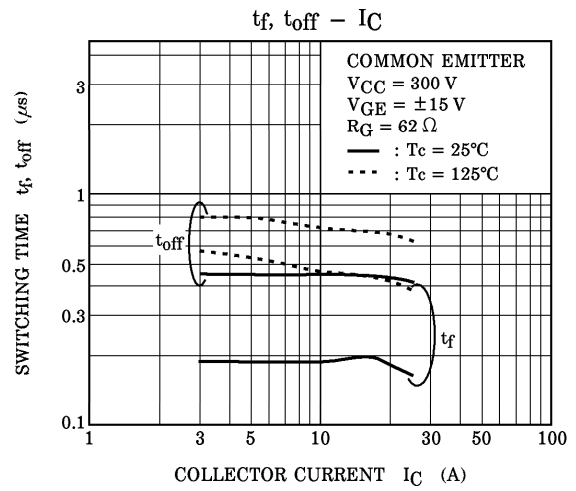
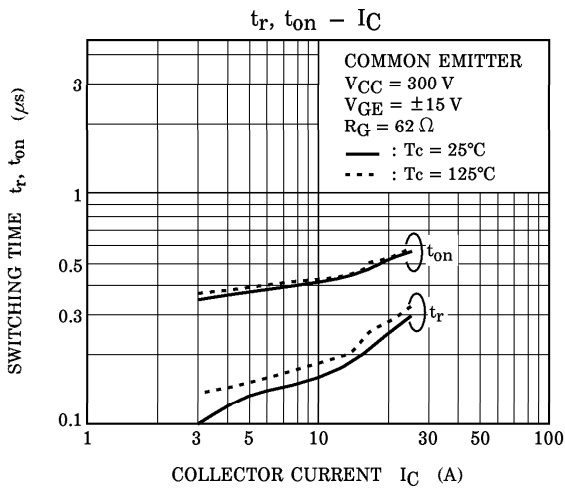
MAXIMUM RATINGS (Ta = 25°C)

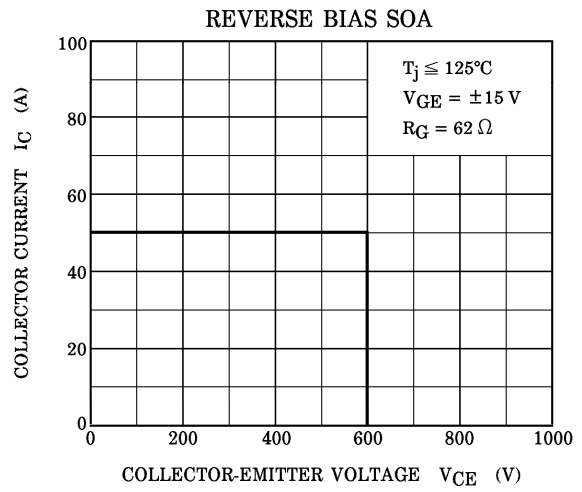
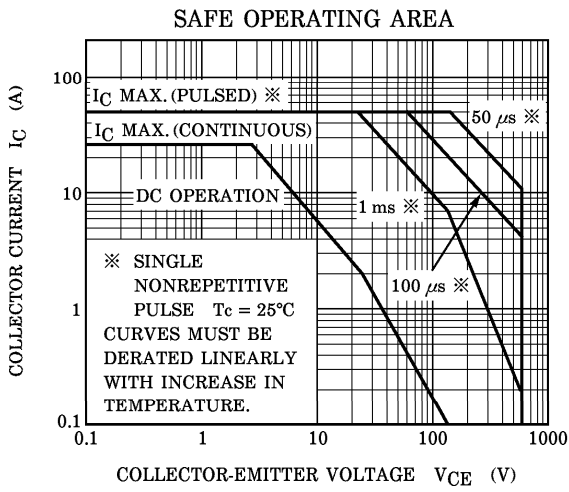
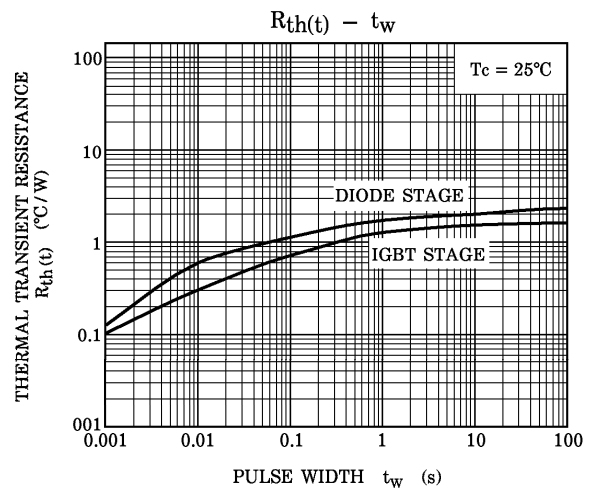
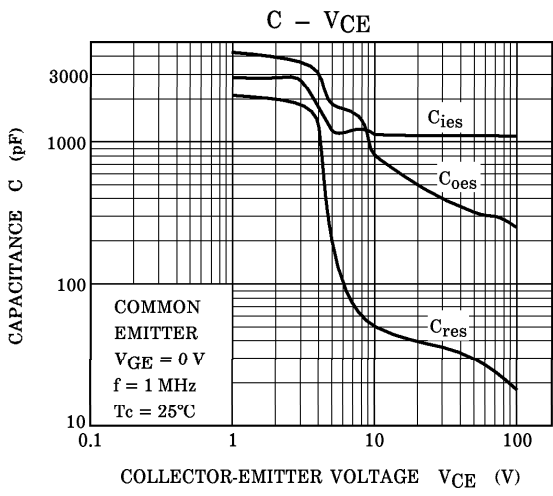
| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|--|-------------------|--------------------|------|
| Collector-Emitter Voltage | V _{CES} | 600 | V |
| Gate-Emitter Voltage | V _{GES} | ±20 | V |
| Collector Current | DC | I _C | 25 |
| | 1 ms | I _{CP} | 50 |
| Forward Current | DC | I _F | 25 |
| | 1 ms | I _{FM} | 50 |
| Collector Power Dissipation (T _c = 25°C) | P _C | 72 | W |
| Junction Temperature | T _j | 150 | °C |
| Storage Temperature Range | T _{stg} | -40 to 125 | °C |
| Isolation Voltage | V _{Isol} | 2500 (AC 1 minute) | V |
| Screw Torque | — | 1.5 | N·m |

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT | |
|--------------------------------------|-----------------------|--|--|------|------|------|----|
| Gate Leakage Current | I _{GES} | V _{GE} = ±20 V, V _{CE} = 0 | — | — | ±20 | μA | |
| Collector Cut-off Current | I _{CES} | V _{CE} = 600 V, V _{GE} = 0 | — | — | 1.0 | mA | |
| Collector-Emitter Voltage | V _{CES} | I _C = 10 mA, V _{GE} = 0 | 600 | — | — | V | |
| Gate-Emitter Cut-off Voltage | V _{GE (off)} | V _{CE} = 5 V, I _C = 25 mA | 5.6 | — | 8.6 | V | |
| Collector-Emitter Saturation Voltage | V _{CE (sat)} | I _C = 25 A, V _{GE} = 15 V | — | 2.6 | 3.1 | V | |
| Input Capacitance | C _{ies} | V _{CE} = 10 V, V _{GE} = 0, f = 1 MHz | — | 1200 | — | pF | |
| Switching Time | Rise Time | t _r |  | — | 0.3 | 0.6 | μs |
| | Turn-on Time | t _{on} | | — | 0.6 | 1.0 | |
| | Fall Time | t _f | | — | 0.2 | 0.35 | |
| | Turn-off Time | t _{off} | | — | 0.4 | 0.7 | |
| Forward Voltage | V _F | I _F = 25 A, V _{GE} = 0 | — | 2.1 | 3.2 | V | |
| Reverse Recovery Time | t _{rr} | I _F = 25 A, V _{GE} = -10 V di/dt = 100 A/μs | — | 0.08 | 0.15 | μs | |
| Thermal Resistance | R _{th (j-c)} | Transistor | — | — | 1.73 | °C/W | |
| | | Diode | — | — | 2.35 | | |







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