

IGBT Dual Transistor

MG300Q2YS40

1200V / 300A

DATASHEET


OEM – Toshiba

Source: Toshiba Databook 1995/96

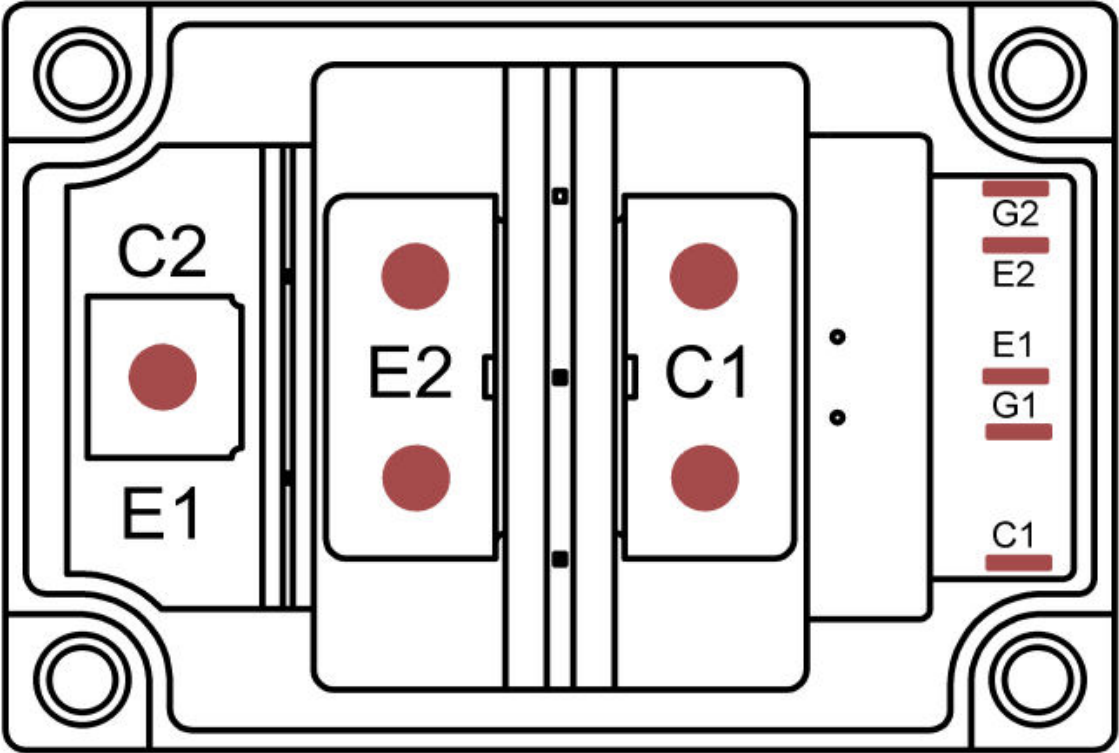
MAXIMUM RATINGS (Ta=25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|------------------------------------|--------|-----------------|------|
| Collector-Emitter Voltage | Vces | 1200 | V |
| Gate-Emitter Voltage | Vges | +/-20 | V |
| Collector Current | DC | IC | 300 |
| | 1ms | Icp | 600 |
| Forward Current | DC | If | 300 |
| | 1ms | Ifm | 600 |
| Collector Power Dissipation | Pc | 1800 | W |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature Range | Tstg | -40~125 | °C |
| Isolation Voltage | Visol | 2500 (AC 1min.) | V |
| Screw Torque (Terminal / Mounting) | - | 3/3 | N*m |

ELECTRICAL CHARACTERISTICS (Ta=25°C)

| CHARACTERISTICS | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|---|------|-------|-------|------|
| Gate Leakage Current | Iges | Uge=+/-20V, Vce=0 | - | - | +30 | uA |
| Collector Cut-off Current | Ices | Uce=1200V, Uge=0 | - | - | 3.0 | mA |
| Gate-Emitter Cut-off Voltage | Uge (off) | Ic=300mA, Uce=5V | 3.0 | - | 6.0 | V |
| Collector-Emitter Saturation Voltage | Uce (sat) | IC=300A, Uge=15V | - | 3.0 | 4.0 | V |
| Input Capacitance | Cies | Uce=10V, Uge=0, f=1MHz | - | 36000 | - | pF |
| Switching Time | Rise Time |  | - | 0.30 | 0.60 | uS |
| | Turn-on Time | | - | 0.40 | 0.80 | |
| | Fall Time | | - | 0.20 | 0.50 | |
| | Turn-off Time | | - | 0.8 | 1.50 | |
| Forward Voltage | Vf | If=300A, Uge=0 | - | 2.0 | 3.0 | V |
| Reverse Recovery Time | trr | If=300A, Uge=-10V di/dt=300A/uS | - | 0.25 | 0.50 | uS |
| Termal Resistance | Rth (j-c) | Transistor | - | - | 0.069 | °C/W |
| | | Diode | - | - | 0.25 | |

2-109A4A



EQUIVALENT CIRCUIT

