

IGBT Transistor Module

MG25J6ES40

600V / 25A

DATASHEET

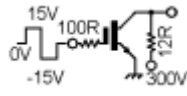
OEM – Toshiba

Source: Toshiba Databook 1995/96

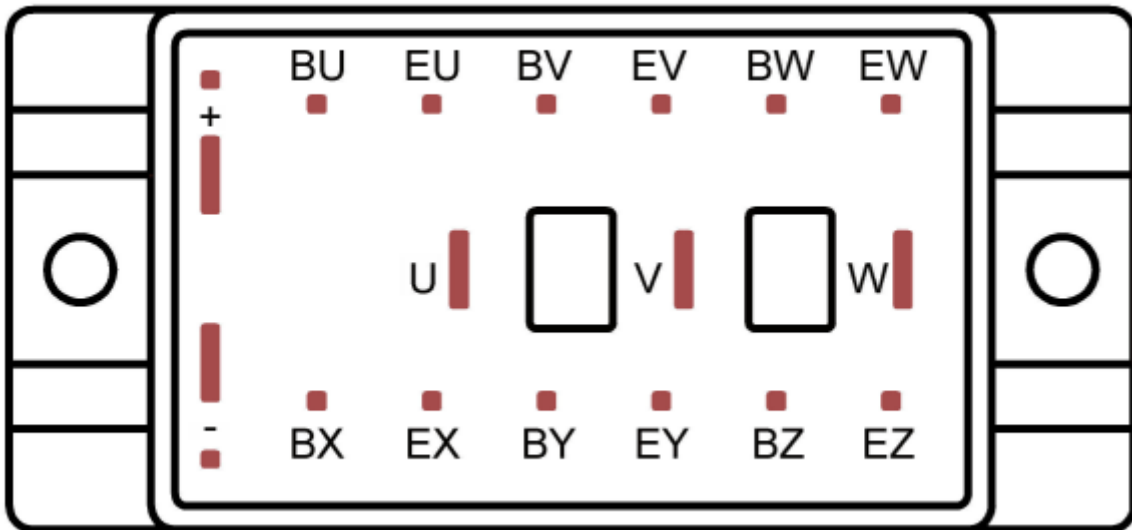
MAXIMUM RATINGS (Tc=25°C)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|-----------------------------|-----|--------|-----------------|------|
| Collector-Emitter Voltage | | Vces | 600 | V |
| Gate-Emitter Voltage | | Vges | +/-20 | V |
| Collector Current | DC | IC | 25 | A |
| | 1ms | Icp | 50 | A |
| Forward Current | DC | If | 25 | A |
| | 1ms | Ifm | 50 | A |
| Collector Power Dissipation | | Pc | 100 | W |
| Junction Temperature | | Tj | 150 | °C |
| Storage Temperature Range | | Tstg | -40~125 | °C |
| Isolation Voltage | | Visol | 2500 (AC 1min.) | V |
| Screw Torque | | - | 3 | N*m |

ELECTRICAL CHARACTERISTICS (Tc=25°C)

| CHARACTERISTICS | | SYMBOL | TEST CONDITION | MIN. | TYP. | MAX. | UNIT |
|--------------------------------------|---------------|------------|---|------|------|--------|------|
| Gate Leakage Current | | Iges | Uge=+/-20V, Vce=0 | - | - | +/-500 | nA |
| Collector Cut-off Current | | Ices | Uce=600V, Uge=0 | - | - | 1.0 | mA |
| Collector-Emitter Breakdown Voltage | | U(br) CES | Ic=10mA, Uge=0 | 600 | - | - | V |
| Gate-Emitter Cut-off Voltage | | Uge (off) | Ic=25mA, Uce=5V | 3.0 | - | 6.0 | V |
| Collector-Emitter Saturation Voltage | | Uce (sat) | IC=25A, Uge=15V | - | 2.7 | 3.5 | V |
| Input Capacitance | | Cies | Uce=10V, Uge=0, f=1MHz | - | 2000 | - | pF |
| Switching Time | Rise Time | tr |  | - | 0.30 | 0.60 | uS |
| | Turn-on Time | ton | | - | 0.40 | 0.80 | |
| | Fall Time | tf | | - | 0.18 | 0.35 | |
| | Turn-off Time | toff | | - | 0.60 | 1.00 | |
| Forward Voltage | | Vf | If=25A, Uge=0 | - | 1.7 | 2.5 | V |
| Reverse Recovery Time | | trr | If=25A, Uge=-10V di/dt=50A/uS | - | 0.08 | 0.15 | uS |
| Thermal Resistance | Rth (j-c) | Transistor | | - | - | 1.25 | °C/W |
| | | Diode | | - | - | 1.56 | |

2-72A5A



EQUIVALENT CIRCUIT

