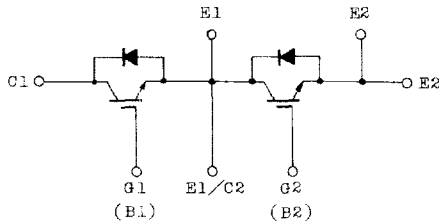


HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

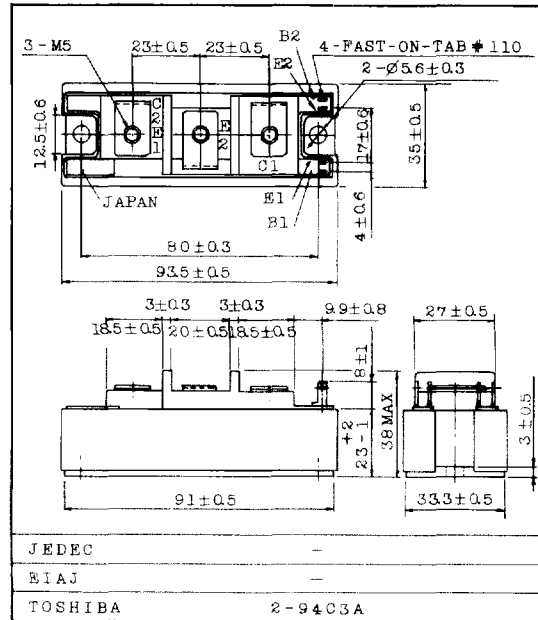
FEATURES:

- . High Input Impedance
- . High Speed : $t_f=1.0\mu s(\text{Max.})$
 $t_{rr}=0.5\mu s(\text{Max.})$
- . Low Saturation Voltage: $V_{CE(sat)}=5.0V(\text{Max.})$
- . Enhancement-Mode
- . Includes a Complete Half Bridge in one Package.
- . The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Unit in mm



Weight : 222g

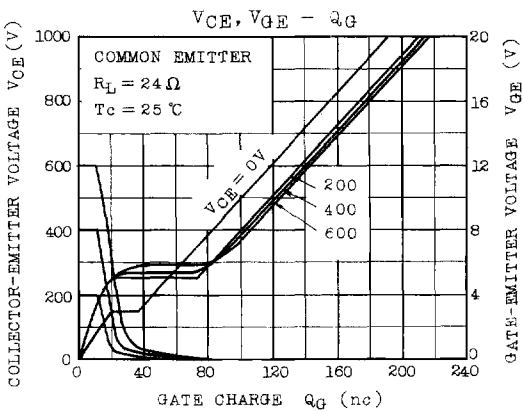
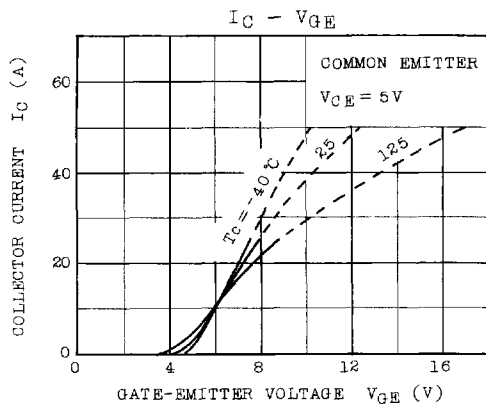
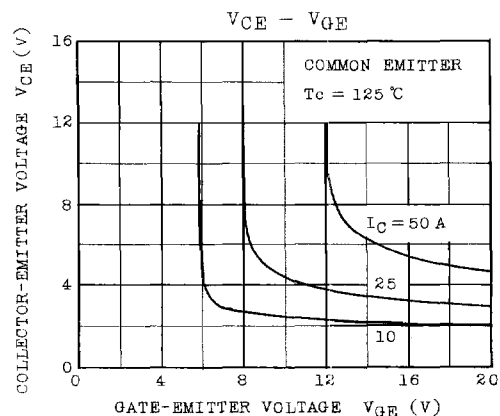
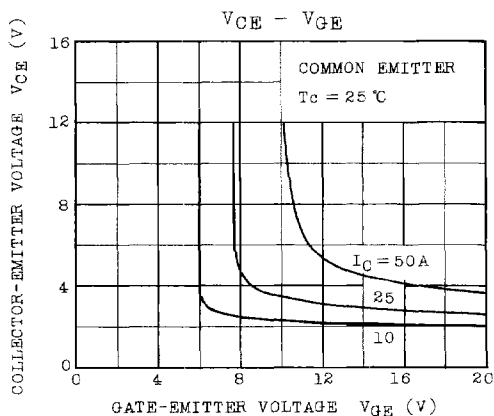
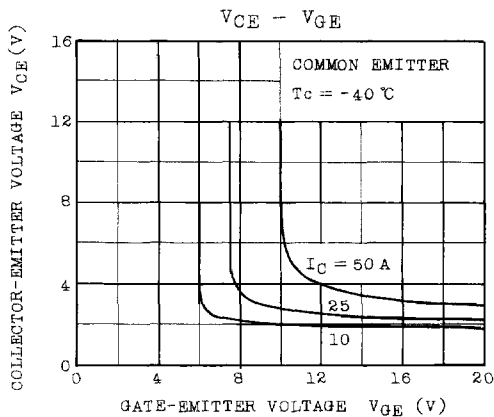
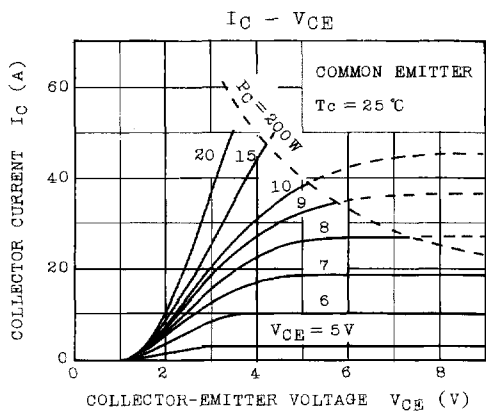
MAXIMUM RATINGS ($T_a=25^\circ C$)

| CHARACTERISTIC | | SYMBOL | RATING | UNIT |
|----------------------------------|-----|------------|--------------------|------------|
| Collector-Emitter Voltage | | V_{CES} | 1000 | V |
| Gate-Emitter Voltage | | V_{GES} | ± 20 | V |
| Collector Current | DC | I_C | 25 | A |
| | 1ms | I_{CP} | 50 | |
| Forward Current | DC | I_F | 25 | A |
| | 1ms | I_{FM} | 50 | |
| Collector Power Dissipation | | P_C | 200 | W |
| Junction Temperature | | T_j | 150 | $^\circ C$ |
| Storage Temperature Range | | T_{stg} | -40~125 | $^\circ C$ |
| Isolation Voltage | | V_{isol} | 2500 (AC 1 Minute) | V |
| Screw Torque (Terminal/Mounting) | | - | 30/30 | kg·cm |

MG25N2YS1

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=1000V, VGE=0 | - | - | 1.0 | mA |
| Collector-Emitter Breakdown Voltage | | V(BR)CES | IC=2mA, VGE=0 | 1000 | - | - | V |
| Gate-Emitter Cut-off Voltage | | VGE(OFF) | IC=25mA, VCE=5V | 3.0 | - | 6.0 | V |
| Collector-Emitter Saturation Voltage | | VCE(sat) | IC=25A, VGE=15V | - | 3.0 | 5.0 | V |
| Input Capacitance | | Cies | VCE=10V, VGE=0, f=1MHz | - | 3000 | - | pF |
| Switching Time | Rise Time | tr | | - | 0.3 | 1.0 | μs |
| | Turn-on Time | ton | | - | 0.4 | 1.0 | |
| | Fall Time | tf | | - | 0.6 | 1.0 | |
| | Turn-off Time | toff | | - | 1.0 | 2.0 | |
| Forward Voltage | | VF | IF=25A, VGE=0 | - | 1.5 | 2.5 | V |
| Reverse Recovery Time | | trr | IF=25A, VGE=-10V di/dt=100A/μs | - | 0.2 | 0.5 | μs |
| Thermal Resistance | | Rth(j-c) | Transistor | - | - | 0.625 | °C/W |
| | | | Diode | - | - | 1.0 | |



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