

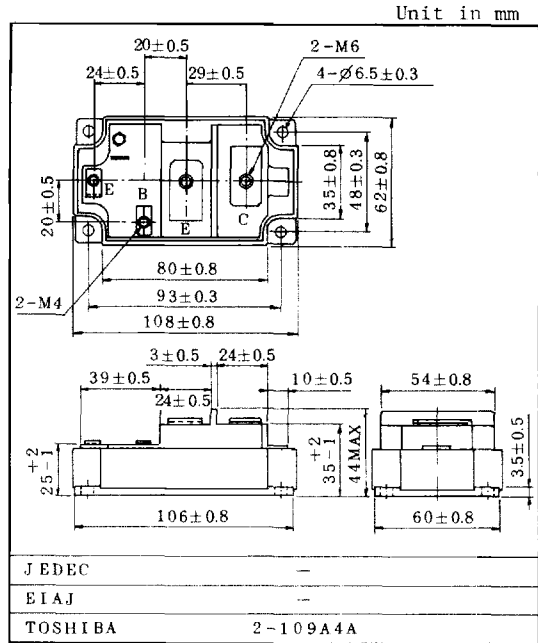
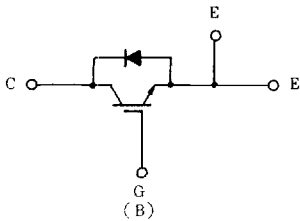
MG300N1US1

GTR MODULL
SILICON N CHANNEL IGBT

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

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

EQUIVALENT CIRCUIT

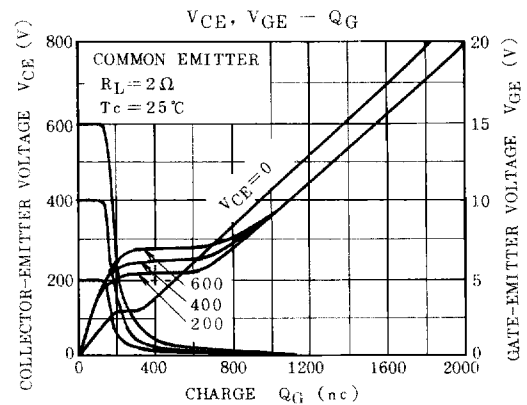
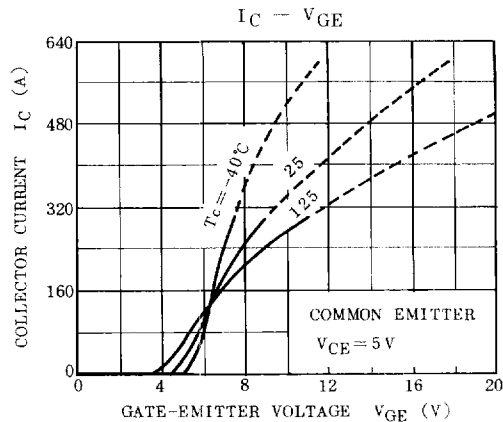
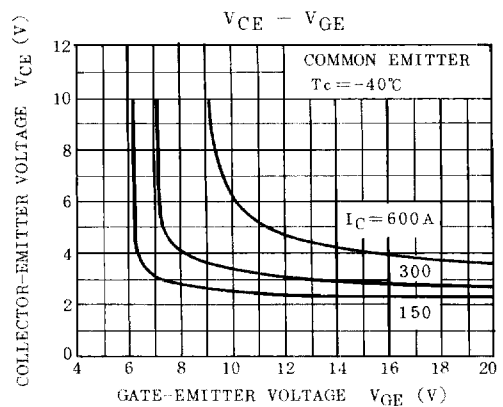
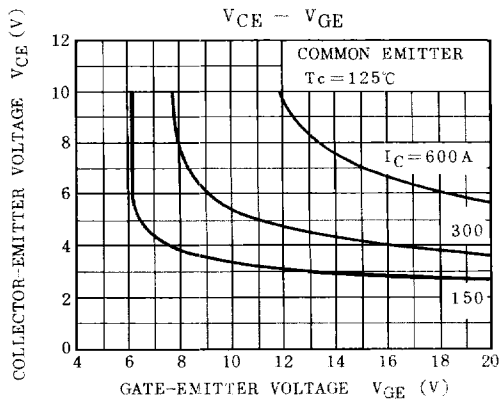
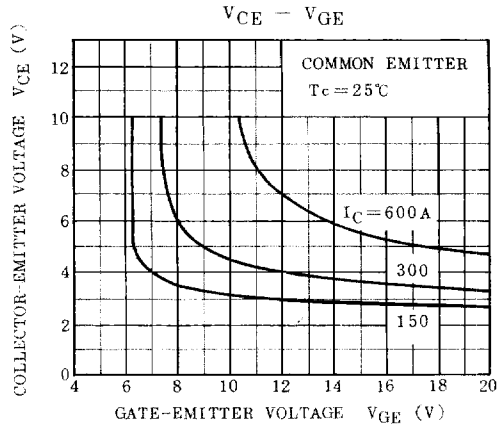
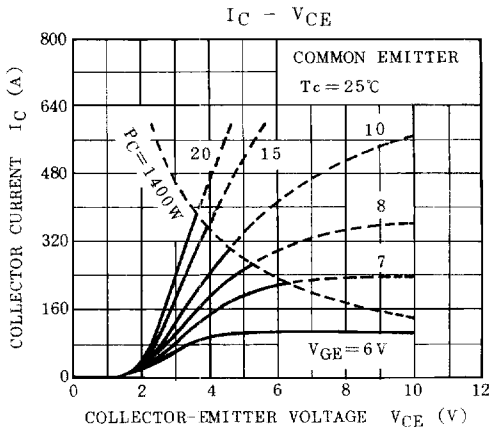


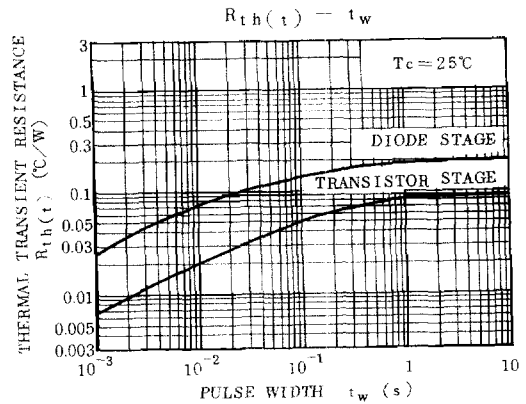
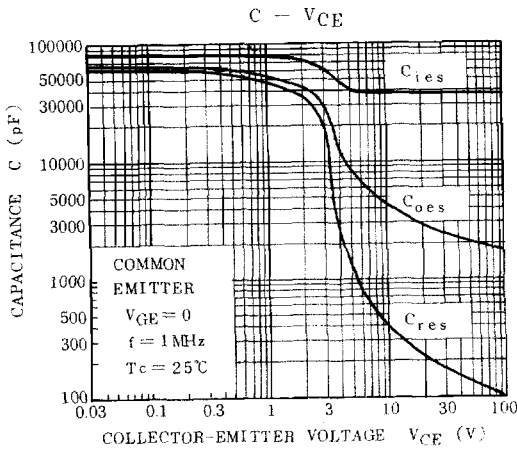
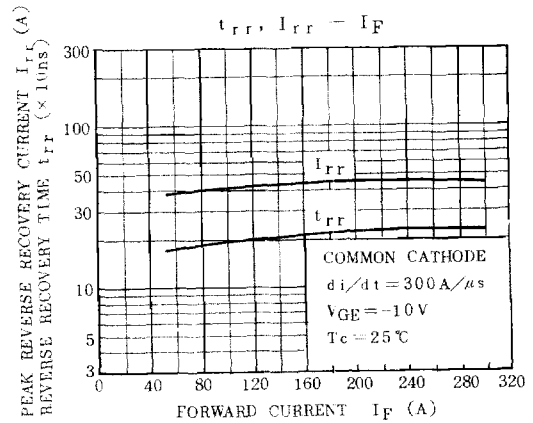
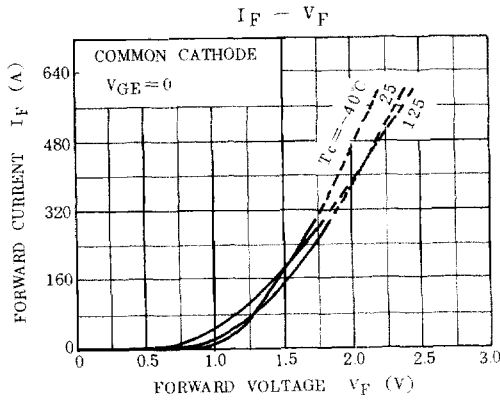
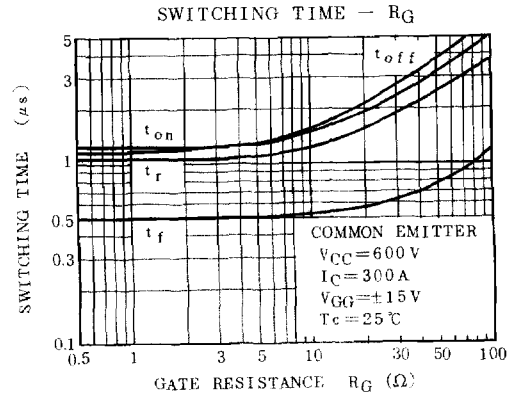
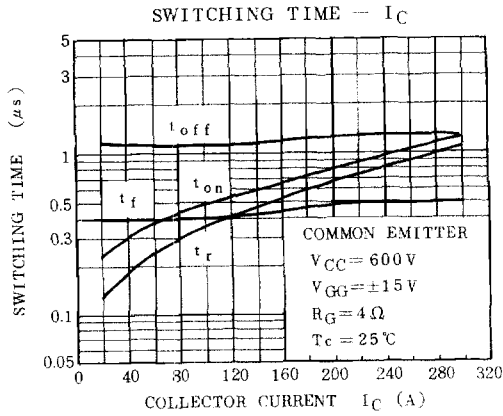
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	1000	V
Gate-Emitter Voltage	V_{GES}	± 20	V
Collector Current	DC	I_C	300
	1ms	I_{CP}	600
Forward Current	DC	I_F	300
	1ms	I_{FM}	600
Collector Power Dissipation ($T_a=25^\circ C$)	P_C	1400	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

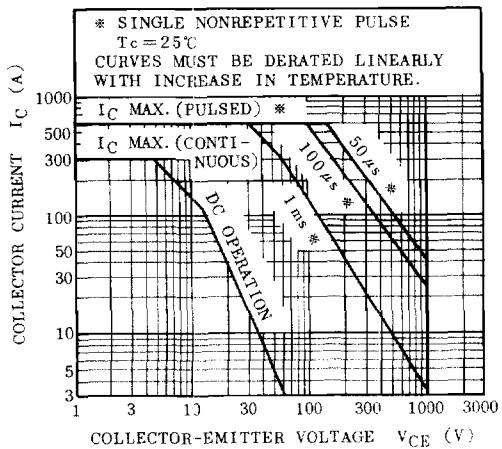
ELECTRICAL CHARACTERISTICS (Ta=25°C)

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	-	-	4.0	mA
Collector-Emitter Breakdown Voltage		V(BR)CES	IC=4mA, VGE=0	1000	-	-	V
Gate-Emitter Cut-off Voltage		VGE(OFF)	IC=300mA, VCE=5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		VCE(sat)	IC=300A, VGE=15V	-	3.5	5.0	V
Input Capacitance		Cies	VCE=10V, VGE=0, f=1MHz	-	38000	-	pF
Switching Time	Rise Time	tr		-	1.0	1.5	μs
	Turn-on Time	ton		-	1.2	2.0	
	Fall Time	tf		-	0.5	1.0	
	Turn-off	toff		-	1.3	2.0	
Forward Voltage		VF	IF=300A, VGE=0	-	2.0	3.0	V
Reverse Recovery Time		trr	IF=300A, VGE=-10V di/dt=300A/μs	-	0.25	0.5	μs
Thermal Resistance		Rth(j-c)	Transistor	-	-	0.089	°C/W
			Diode	-	-	0.20	





SAFE OPERATING AREA



REVERS BIAS SOA

