

9097250 TOSHIBA (DISCRETE/OPTO)

90D 16174

D T-33-27

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

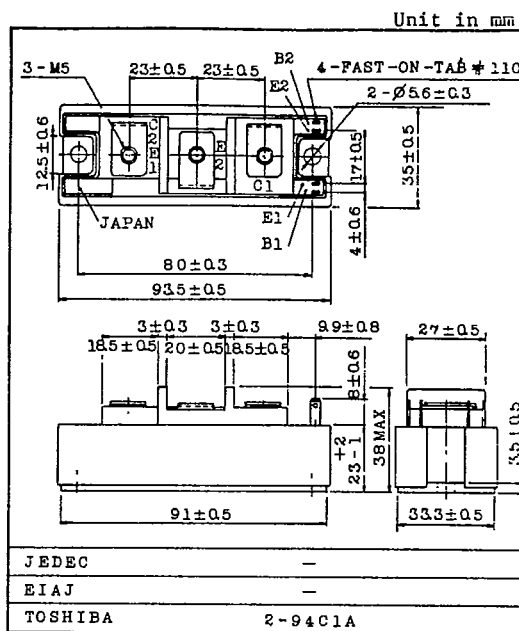
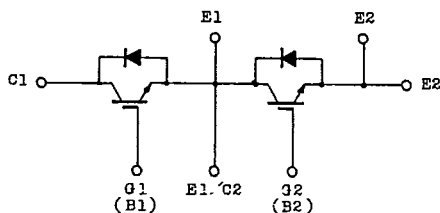
TOSHIBA GTR MODULE
 MG50N2YS1
 SILICON N CHANNEL IGBT

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: $V_{CE(\text{sat})}=5.0V(\text{Max.})$
- Enhancement-Mode
- Includes a Complete Half Bridge in One Package.
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Weight : 220g

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	1000	V
Gate-Emitter Voltage	V_{GES}	± 20	V
Collector Current	DC	I_C	50
	1ms	I_{CP}	100
Forward Current	DC	I_F	50
	1ms	I_{FM}	100
Collector Power Dissipation ($T_c=25^\circ\text{C}$)	P_C	300	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-40~125	$^\circ\text{C}$
Isolation Voltage	V_{isol}	2500 (AC 1 minute)	V
Screw Torque (Terminal/Mounting)	-	30/30	kg·cm

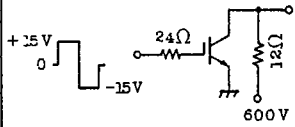
EGA-MG50N2YS1-1

TOSHIBA CORPORATION

TOSHIBA SEMICONDUCTOR
 TECHNICAL DATA

MG50N2YS1

ELECTRICAL CHARACTERISTICS (Ta=25°C)

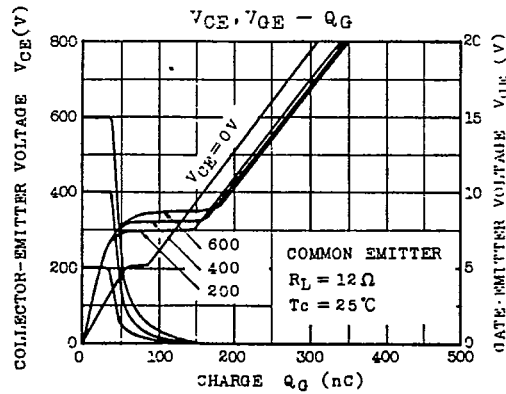
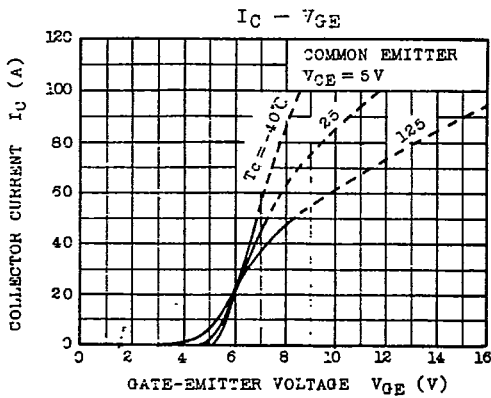
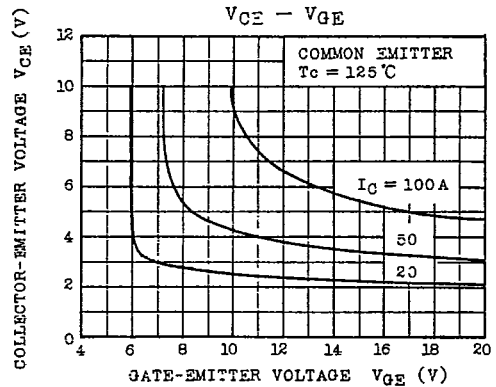
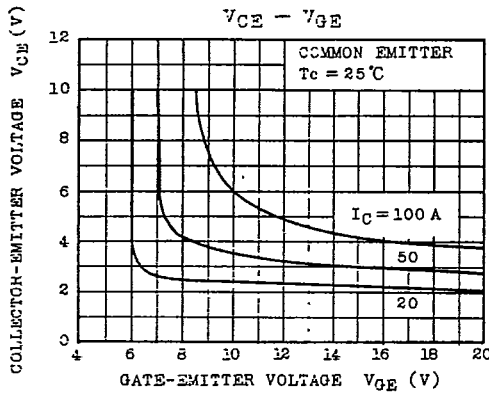
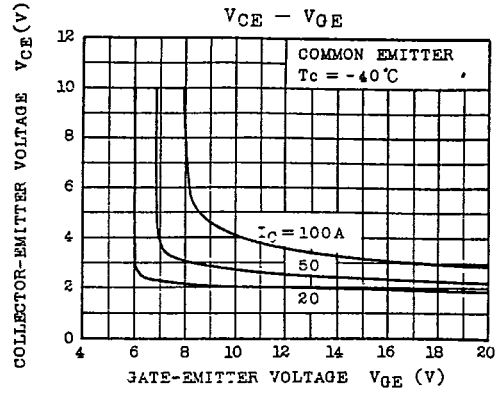
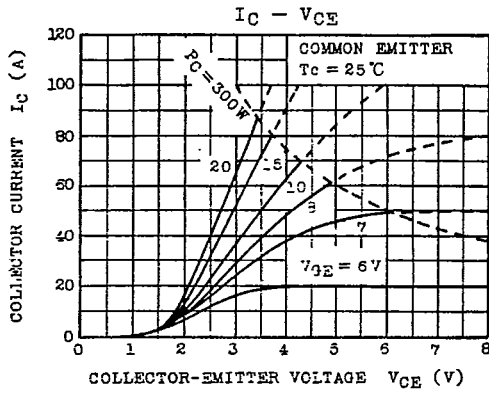
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} =±20V, V _{CE} =0	-	-	±500	nA
Collector Cut-off Current		I _{CES}	V _{CE} =1000V, V _{GE} =0	-	-	1.0	mA
Collector-Emitter Breakdown Voltage		V _{(BR)CES}	I _C =2mA, V _{GE} =0	1000	-	-	V
Gate-Emitter Cut-off Voltage		V _{GE(OFF)}	I _C =50mA, V _{CE} =5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		V _{CE(sat)}	I _C =50A, V _{GE} =15V	-	3.0	5.0	V
Input Capacitance		C _{ies}	V _{CE} =10V, V _{GE} =0, f=1MHz	-	7200	-	pF
Switching Time	Rise Time	t _r		-	0.35	1.0	μs
	Turn-on Time	t _{on}		-	0.45	1.0	
	Fall Time	t _f		-	0.6	1.0	
	Turn-off Time	t _{off}		-	1.1	1.5	
Forward Voltage		V _F	I _F =50A, V _{GE} =0	-	2.0	2.5	V
Reverse Recovery Time		t _{rr}	I _F =50A, V _{GE} =-10V di/dt=100A/μs	-	0.25	0.5	μs
Thermal Resistance		R _{th(j-c)}	Transistor	-	-	0.41	°C/W
			Diode	-	-	1.0	

EGA-MG50N2YS1-2

TOSHIBA CORPORATION

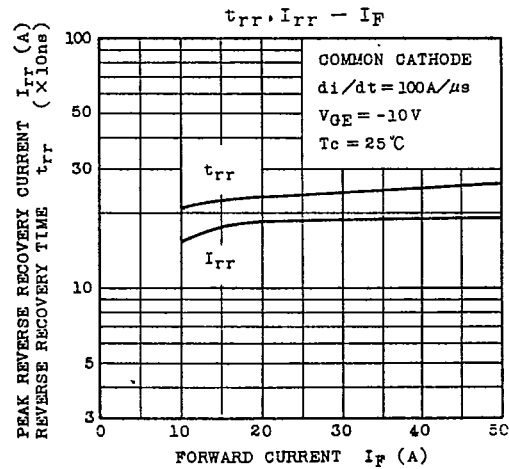
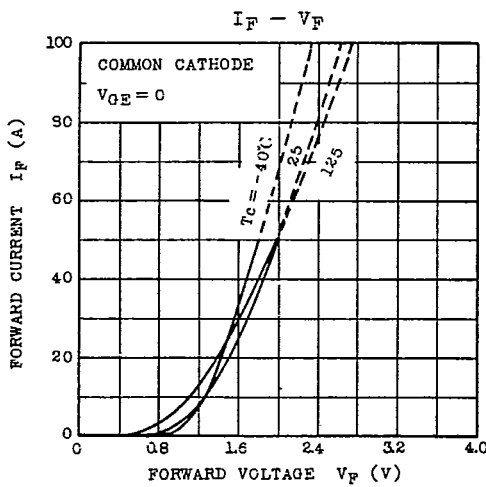
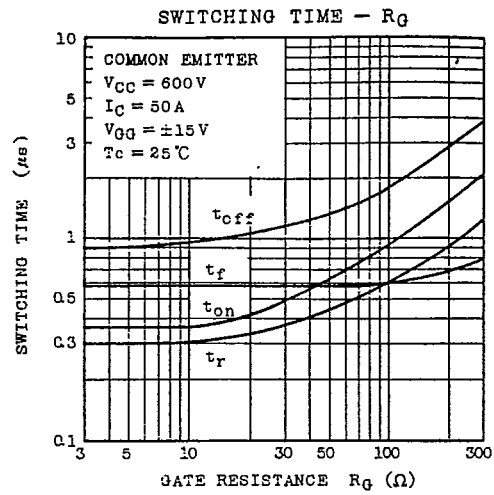
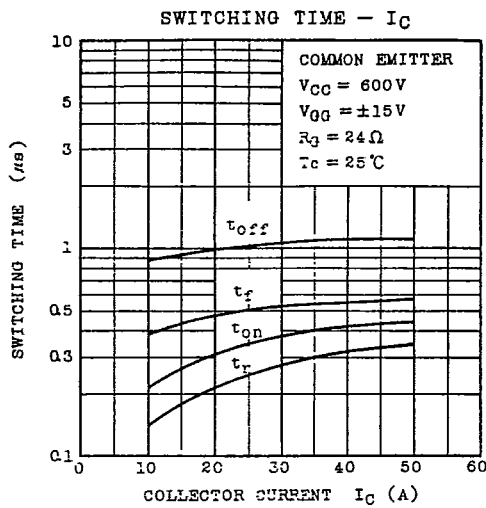
TOSHIBA SEMICONDUCTOR
TECHNICAL DATA

MG50N2YS1



TOSHIBA SEMICONDUCTOR
TECHNICAL DATA

MG50N2YS1



TOSHIBA SEMICONDUCTOR
TECHNICAL DATA

MG50N2YS1

