

9097250 TOSHIBA (DISCRETE/OPTO)

90D 16006

D T-33-35

TOSHIBA SEMICONDUCTOR

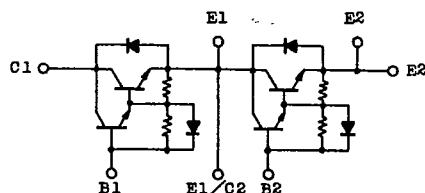
TECHNICAL DATA

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

FEATURES:

- The Collector is Isolated from Case.
- 2 Power Transistors and 2 Free Wheeling Diodes are Built-in to 1 Package.
- High DC Current Gain: $h_{FE}=100(\text{Min.})(I_C=30A)$
- Low Saturation Voltage
: $V_{CE(sat)}=2V(\text{Max.})(I_C=30A)$
- High Speed : $t_f=3\mu s(\text{Max.})(I_C=30A)$

EQUIVALENT CIRCUIT

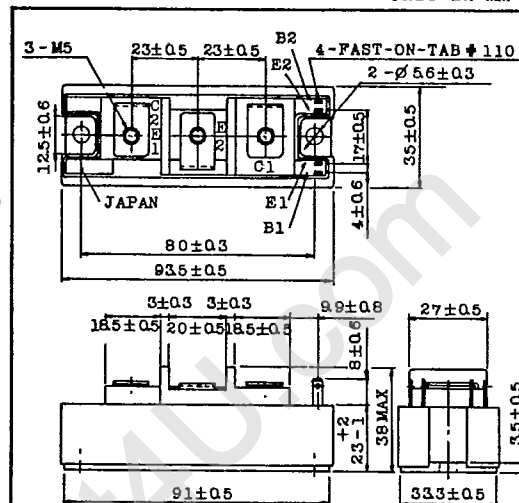


TOSHIBA GTR MODULE

MG30G2YL1

SILICON NPN TRIPLE DIFFUSED TYPE

Unit in mm



JEDEC

EIAJ

TOSHIBA

2-94C1A

Weight : 222g

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	600	V
		$V_{CEO(SUS)}$	450	
Emitter-Base Voltage		V_{EB0}	6	V
Collector Current	DC	I_C	30	A
	1ms	I_{CP}	60	
Forward Current	DC	I_F	30	A
	1ms	I_{FM}	60	
Base Current		I_B	3	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)		P_C	200	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-MG30G2YL1-1

1986-9-1

TOSHIBA CORPORATION

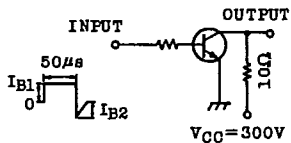
9097250 TOSHIBA (DISCRETE/OPTO)

90D 16007 DT-33-35

TOSHIBA SEMICONDUCTOR TECHNICAL DATA

MG30G2YL1

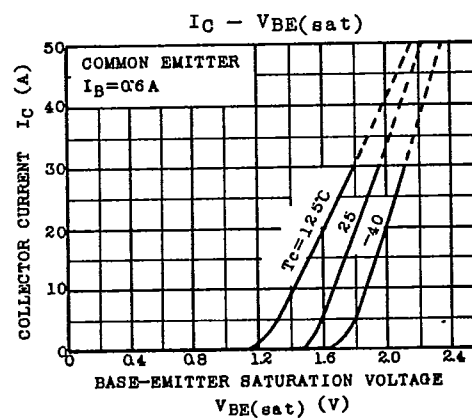
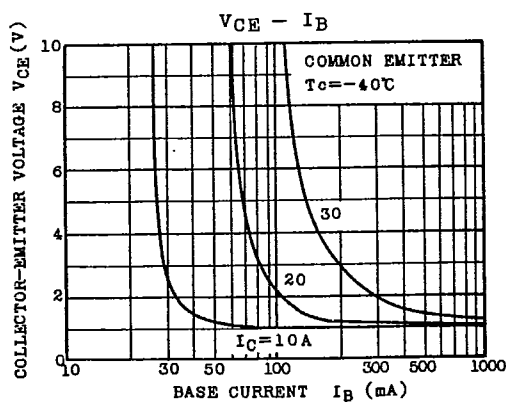
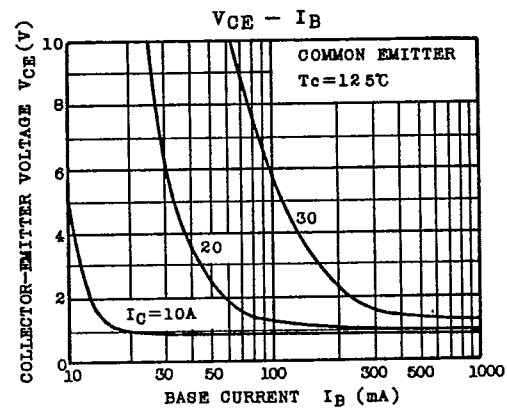
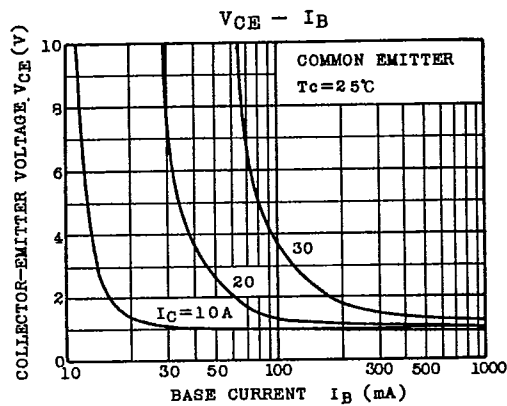
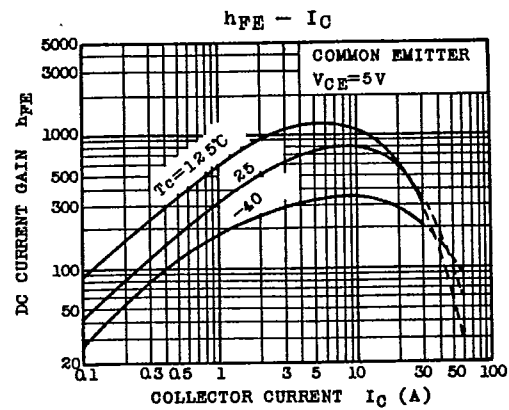
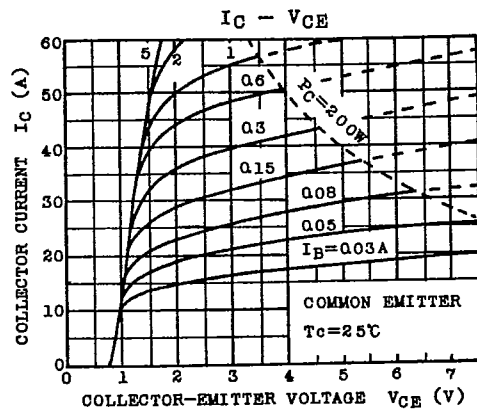
ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	VCE=600V, IE=0	-	-	1.0	mA
Emitter Cut-off Current		IEBO	VEB=6V, IC=0	-	-	200	mA
Collector-Emitter Sustaining Voltage		VCEO(SUS)	IC=0.5A, L=40mH	450	-	-	V
DC Current Gain		hFE	VCE=5V, IC=30A	100	-	-	
Collector-Emitter Saturation Voltage		VCE(sat)	IC=30A, IB=0.6A	-	-	2.0	V
Base-Emitter Saturation Voltage		VBE(sat)		-	-	2.5	V
Switching Time	Turn-on Time	ton		-	-	1.0	µs
	Storage Time	tstg		-	-	12	
	Fall Time	tf		-	-	3.0	
Forward Voltage		VF	IF=30A, IB=0	-	-	1.6	V
Reverse Recovery Time		trr	IF=30A, VBE=-2V di/dt=60A/µs	-	-	1.0	µs
Thermal Resistance		Rth(j-c)	Transistor	-	-	0.625	°C/W
			Diode	-	-	1.8	

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

MG30G2YL1



MG30G2YL1

TOSHIBA CORPORATION

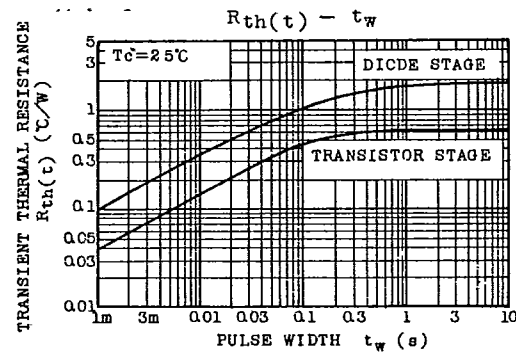
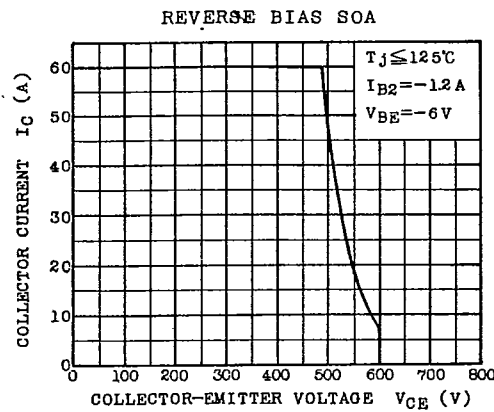
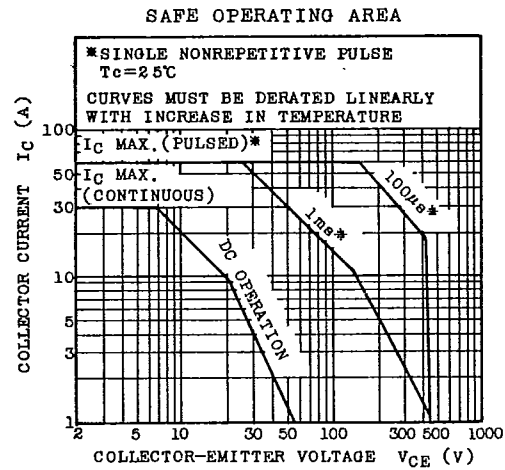
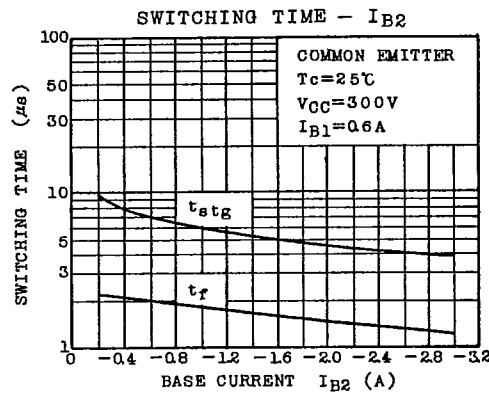
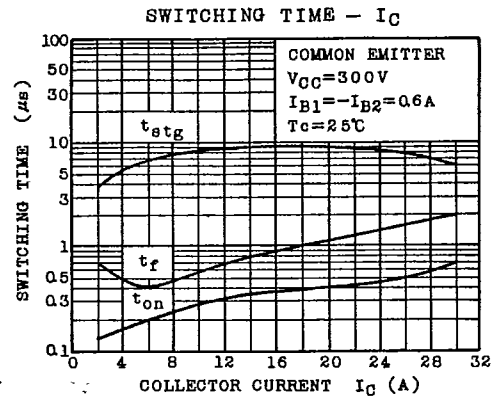
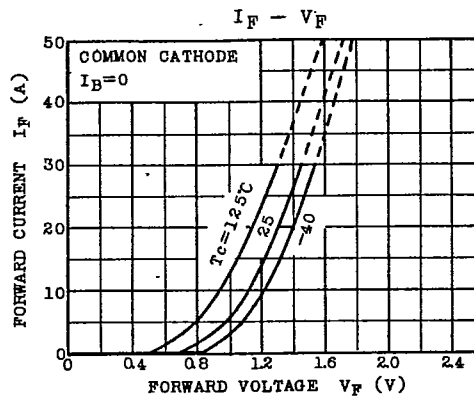
9097250 TOSHIBA (DISCRETE/OPTO)

90D 16009 DT-33-35

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

MG30G2YL1



9097250 TOSHIBA (DISCRETE/OPTO)

90D 16010 DT-33-35

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

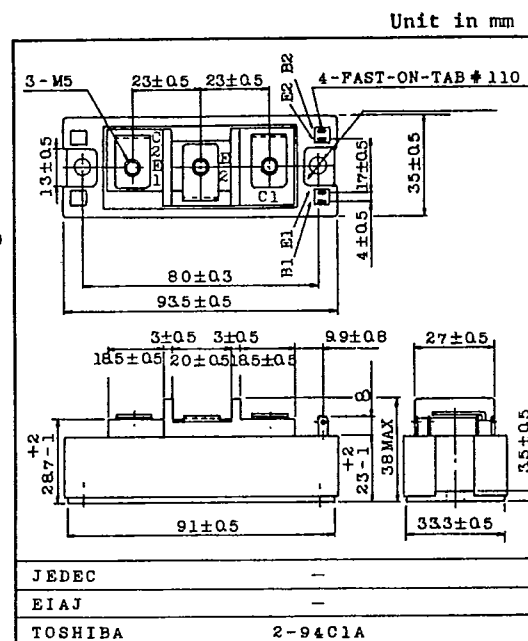
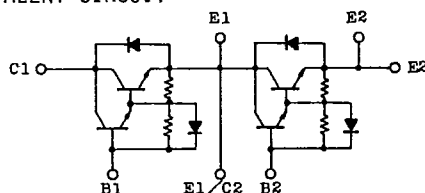
TOSHIBA GTR MODULE
MG50G2YL1A
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

FEATURES:

- The Collector is Isolated from Case.
- 2 Power Transistors and 2 Free Wheeling Diodes are Built-in to 1 Package.
- High DC Current Gain: $h_{FE}=100(\text{Min.}) (I_C=50A)$
- Low Saturation Voltage
: $V_{CE(sat)}=2V(\text{Max.}) (I_C=50A)$
- High Speed : $t_f=2\mu s(\text{Max.}) (I_C=50A)$

EQUIVALENT CIRCUIT



Weight : 222g

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	600	V
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	600	V
		$V_{CEO(SUS)}$	450	
Emitter-Base Voltage		V_{EBO}	6	V
Collector Current	DC	I_C	50	A
	lms	I_{CP}	100	
Forward Current	DC	I_F	50	A
	lms	I_{FM}	100	
Base Current		I_B	5	A
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)		-	20/30	kg·cm

MG50G2YL1

TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

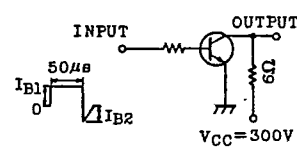
90D 16011 DT-33-35

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

MG50G2YL1A

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=600\text{V}$, $I_E=0$	-	-	1.0	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=6\text{V}$, $I_C=0$	-	-	200	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	$I_C=0.5\text{A}$, $L=40\text{mH}$	450	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=5\text{V}$, $I_C=50\text{A}$	100	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=50\text{A}$, $I_B=1\text{A}$	-	-	2.0	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	2.5	V
Switching Time	Turn-on Time	t_{on}	 $I_{B1}=-I_{B2}=1\text{A}$ DUTY CYCLE=0.5%	-	-	1.0	μs
	Storage Time	t_{stg}		-	-	12	
	Fall Time	t_f		-	-	2.0	
Forward Voltage		V_F	$I_F=50\text{A}$, $I_B=0$	-	-	1.7	V
Reverse Recovery Time		t_{rr}	$I_F=50\text{A}$, $V_{BE}=-3\text{V}$ $di/dt=100\text{A}/\mu\text{s}$	-	-	2.0	μs
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	0.41	$^\circ\text{C}/\text{W}$
			Diode	-	-	1.3	

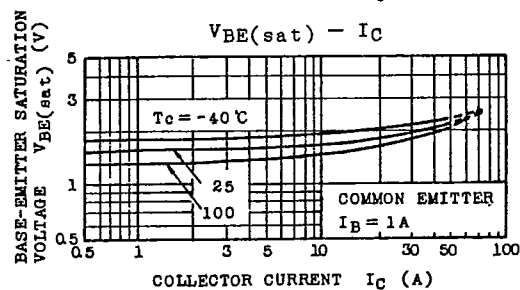
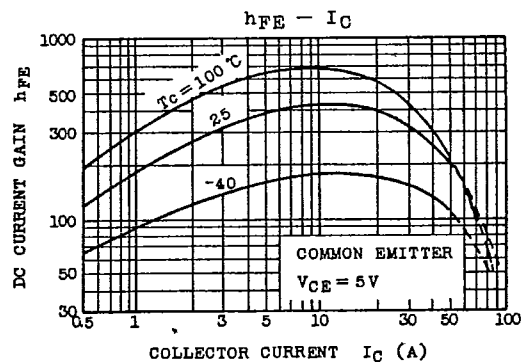
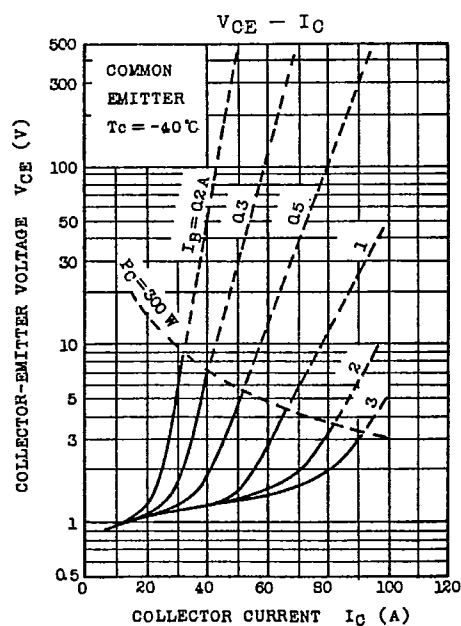
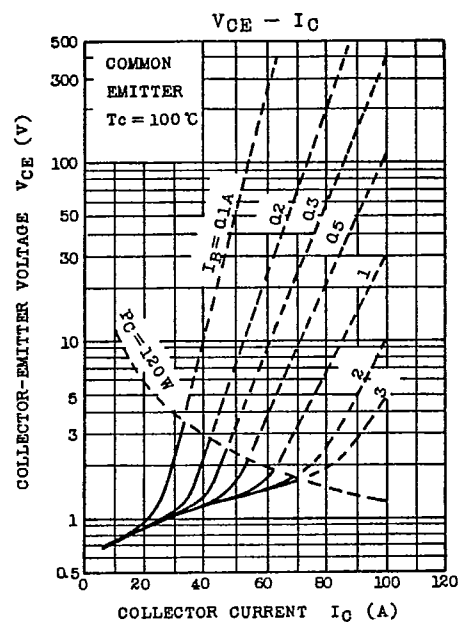
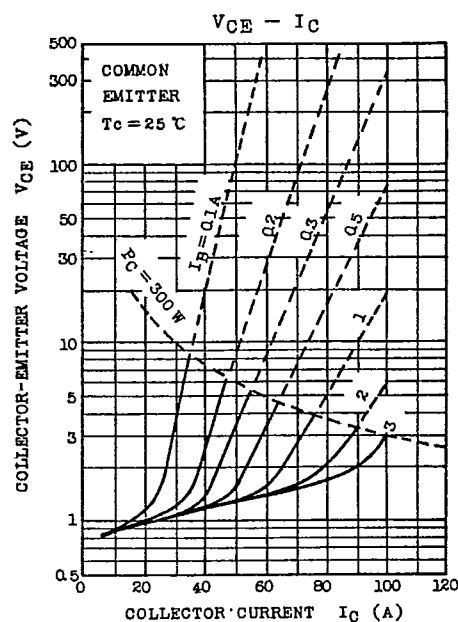
MG50G2YL1

TOSHIBA CORPORATION

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

MG50G2YL1A



TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

MG50G2YL1A

