

TOSHIBA SEMICONDUCTOR
TECHNICAL DATA

TOSHIBA GTR MODULE

M G 2 0 0 M 1 U K 1

SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.

MOTOR CONTROL APPLICATIONS.

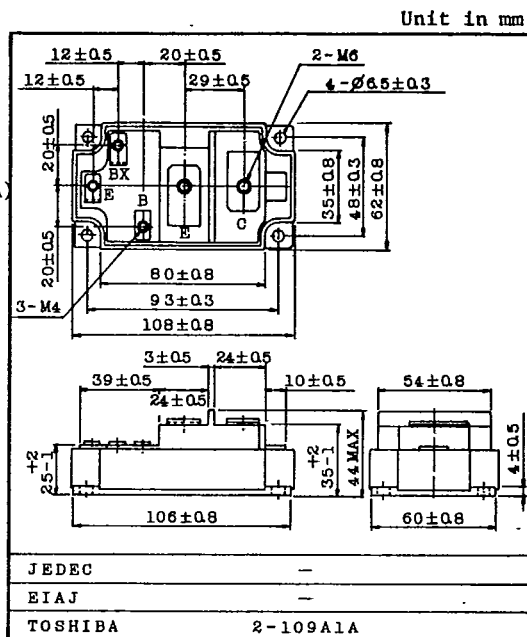
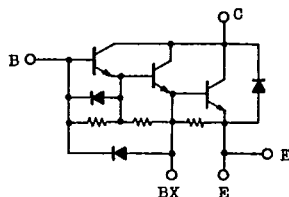
FEATURES:

- . The Collector is Isolated from Case.
- . With Built-in Free Wheeling Diode
- . High DC Current Gain: $h_{FE}=100(\text{Min.})(I_C=200A)$
- . Low Saturation Voltage

$$: V_{CE(sat)} = 2.5V (\text{Max.}) (I_C = 200A)$$

- . Excellent Collector Balance by Direct
Parallel Connection of Each All Terminals.

EQUIVALENT CIRCUIT



Weight :

MAXIMUM RATINGS (T_a=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V _{CB0}	1000	V
Collector-Emitter Sustaining Voltage		V _{CEX(SUS)}	1000	V
		V _{CEO(SUS)}	880	
Emitter-Base Voltage		V _{EB0}	7	V
Collector Current	DC	I _C	200	A
	1ms	I _{CP}	400	
Forward Current	DC	I _F	200	A
	1ms	I _{FM}	400	
Base Current		I _B	20	A
Collector Power Dissipation (T _c =25°C)		P _C	1400	W
Junction Temperature		T _j	150	°C
Storage Temperature		T _{stg}	-40~125	°C
Isolation Voltage		V _{Isol}	2500 (AC 1 Minute)	V
Screw Torque (Terminal M4/M6/Mounting)		-	20/30/30	kg·cm

MG200M1UK1

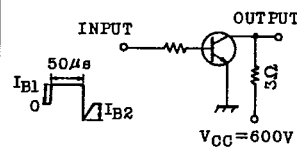
TOSHIBA CORPORATION

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=1000\text{V}$, $I_E=0$	-	-	8	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7\text{V}$, $I_C=0$	-	-	800	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	$I_C=1\text{A}$, $L=40\text{mH}$	880	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=5\text{V}$, $I_C=200\text{A}$	100	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=200\text{A}$, $I_B=4\text{A}$	-	-	2.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	3.5	V
Switching Time	Turn-on Time	t_{on}	 INPUT OUTPUT 50μs I_{B1} I_{B2} $V_{CE}=600\text{V}$ $I_{B1}=-I_{B2}=4\text{A}$ DUTY CYCLE=0.5%	-	-	2.0	μs
	Storage Time	t_{stg}		-	-	15	
	Fall Time	t_f		-	-	5	
Forward Voltage		V_F	$I_F=200\text{A}$, $I_B=0$	-	-	1.8	V
Reverse Recovery Time		t_{rr}	$I_F=200\text{A}$, $V_{BE}=-3\text{V}$ $di/dt=100\text{A}/\mu\text{s}$	-	-	1.0	μs
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	0.089	$^\circ\text{C/W}$
			Diode	-	-	0.325	

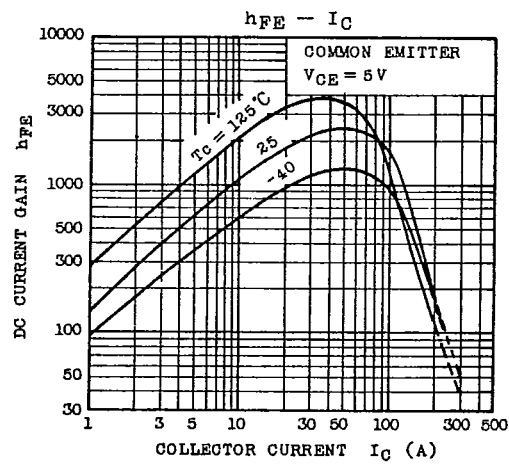
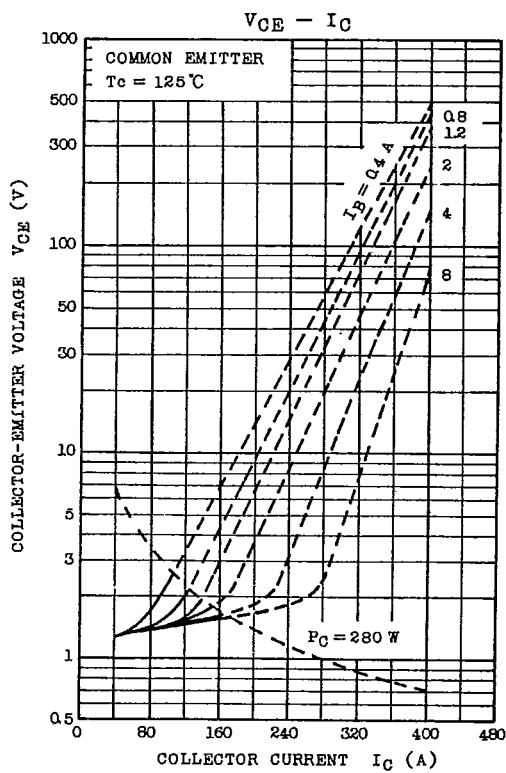
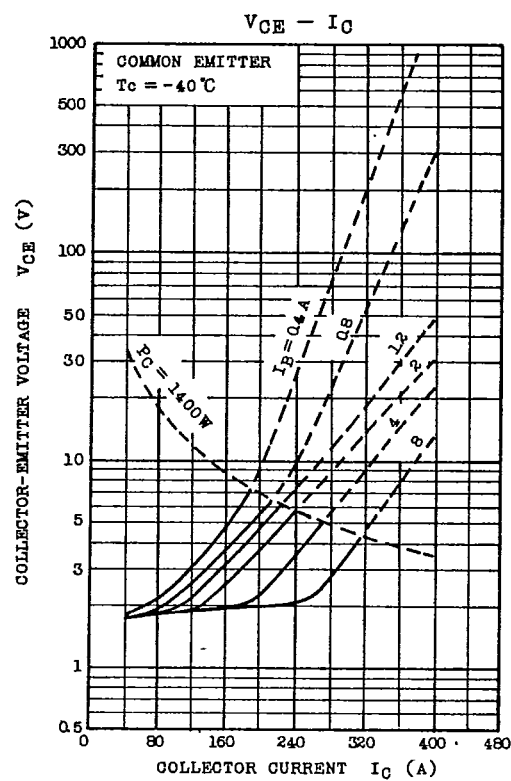
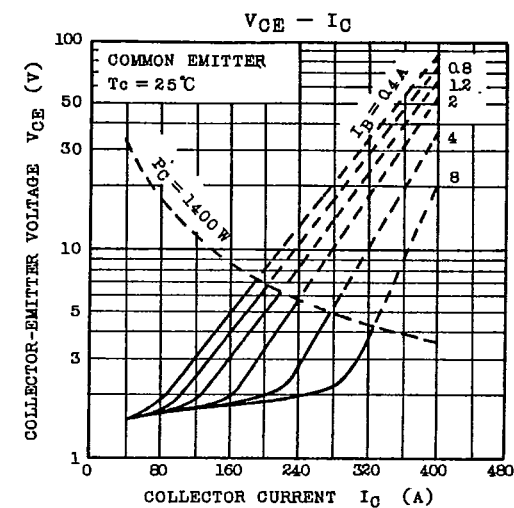
9097250 TOSHIBA (DISCRETE/OPTO)

90D 16100 DT-33-35

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