

9097250 TOSHIBA (DISCRETE/OPTO)

90D 16090

DT-33-35

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA GTR MODULE

MG150M2YK1

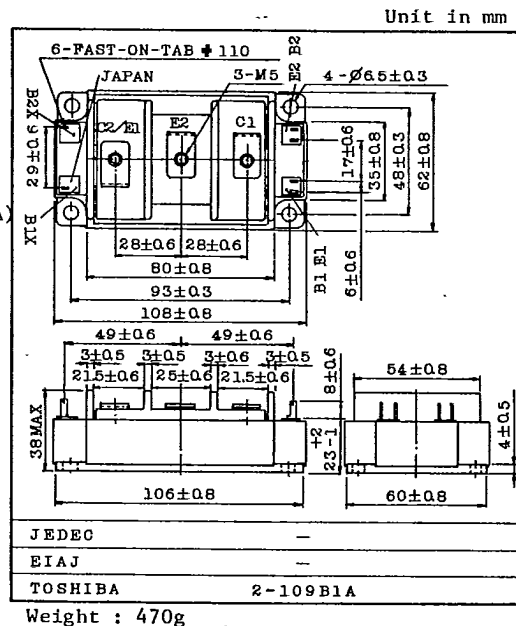
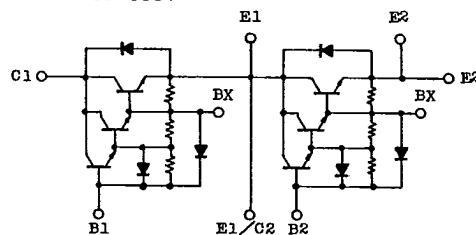
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

FEATURES:

- The Collector is Isolated from Case.
- Power Transistors and 2 Free Wheeling Diodes are Built-in to 1 Package.
- High DC Current Gain: $h_{FE}=100(\text{Min.})(I_C=150A)$
- Low Saturation Voltage
: $V_{CE}(\text{sat})=2.5V(\text{Max.})(I_C=150A)$

EQUIVALENT CIRCUIT

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	1000	V
Collector-Emitter Sustaining Voltage		$V_{CEX}(\text{SUS})$	1000	V
		$V_{CEO}(\text{SUS})$	880	
Emitter-Base Voltage		V_{EBO}	7	V
Collector Current	DC	I_C	150	A
	1ms	I_{CP}	300	
Forward Current	DC	I_F	150	A
	1ms	I_{FM}	300	
Base Current		I_B	15	A
Collector Power Dissipation ($T_c=25^\circ\text{C}$)		P_C	800	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-MG150M2YK1-1

1986-9-1

TOSHIBA CORPORATION

9097250 TOSHIBA (DISCRETE/OPTO)

90D 16091

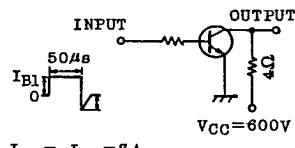
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ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=1000V, I_E=0$	-	-	4	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	-	-	400	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	$I_C=1A, L=40mH$	880	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=5V, I_C=150A$	100	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=150A, I_B=3A$	-	-	2.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	3.5	V
Switching Time	Turn-on Time	t_{on}	 $I_{B1} = -I_{B2} = 3A$ DUTY CYCLE=0.5%	-	-	2.0	μs
	Storage Time	t_{stg}		-	-	15	
	Fall Time	t_f		-	-	5	
Forward Voltage		V_F	$I_F=150A, I_B=0$	-	-	1.8	V
Reverse Recovery Time		t_{rr}	$I_F=150A, V_{BE}=-3V$ $di/dt=100A/\mu s$	-	-	1.0	μs
Thermal Resistance		$R_{\theta(j-c)}$	Transistor	-	-	0.156	$^{\circ}C/W$
			Diode	-	-	0.65	

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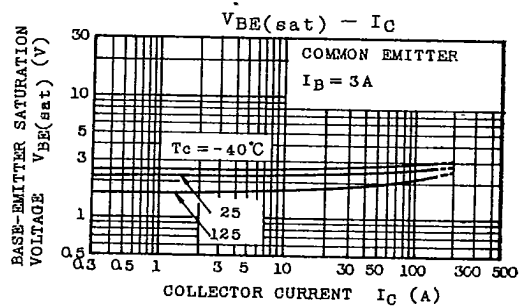
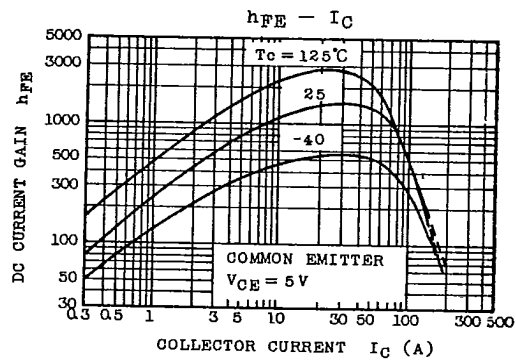
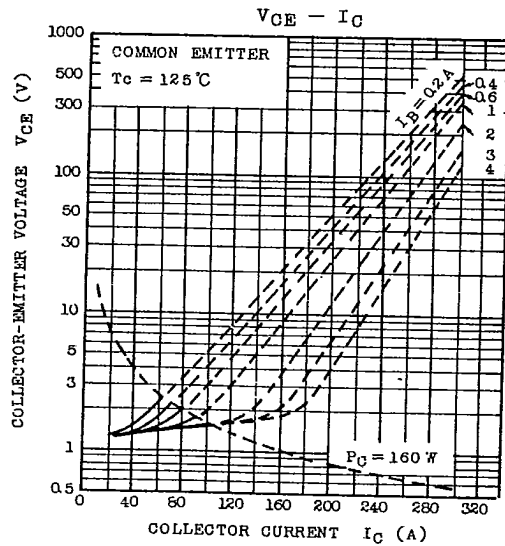
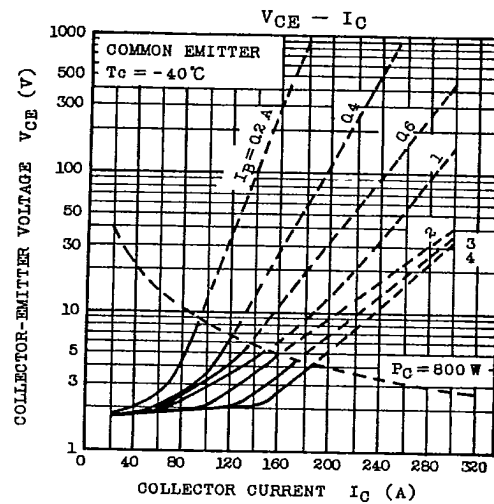
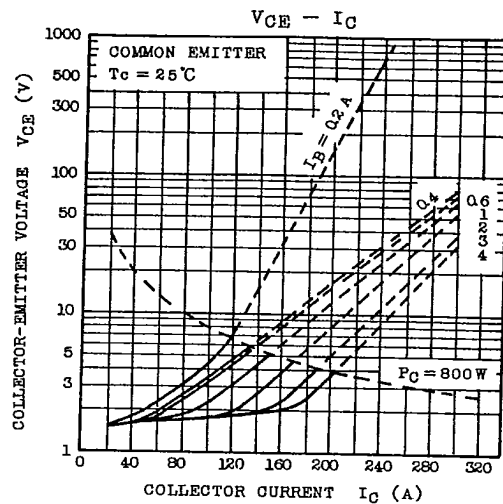
TOSHIBA CORPORATION

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