

TOSHIBA SEMICONDUCTOR

TECHNICAL DATA

TOSHIBA GTR MODULE
MG50M2YK1

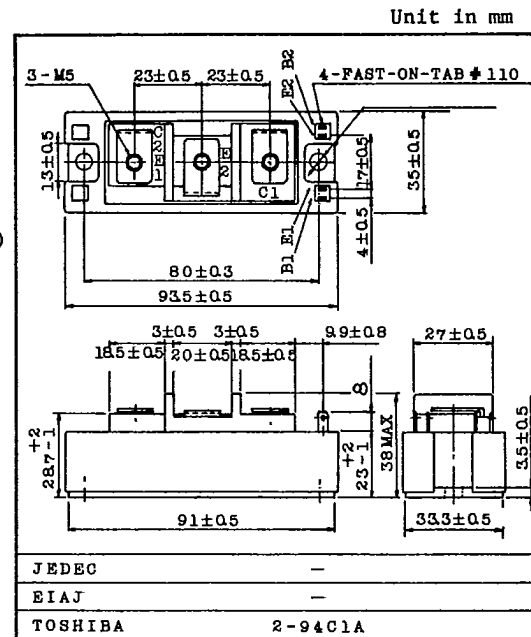
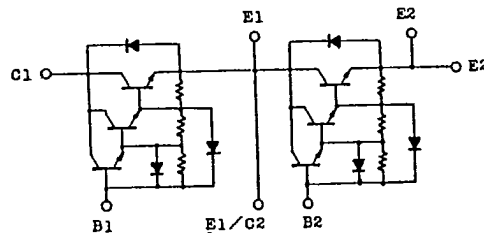
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

FEATURES:

- The Collector is Isolation 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
: $V_{CE}(\text{sat})=2.5V(\text{Max.})(I_C=50A)$

EQUIVALENT CIRCUIT



Weight : 222g

MAXIMUM RATINGS (Ta=25°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	50	A
	1ms	I_{CP}	100	
Forward Current	DC	I_F	50	A
	1ms	I_{FM}	100	
Base Current		I_B	5	A
Collector Power Dissipation (Tc=25°C)		P_C	350	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	-40-125	°C
Isolation Voltage		V_{Isol}	2500 (AC 1 Minute)	V
Screw Torque (Terminal/Mounting)		-	20/30	kg·cm

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TOSHIBA CORPORATION

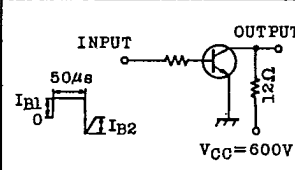
9097250 TOSHIBA (DISCRETE/OPTO)

90D 16067 DT-33-35

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ELECTRICAL CHARACTERISTICS (Ta=25°C)

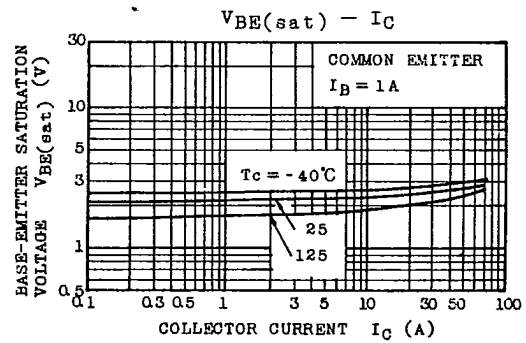
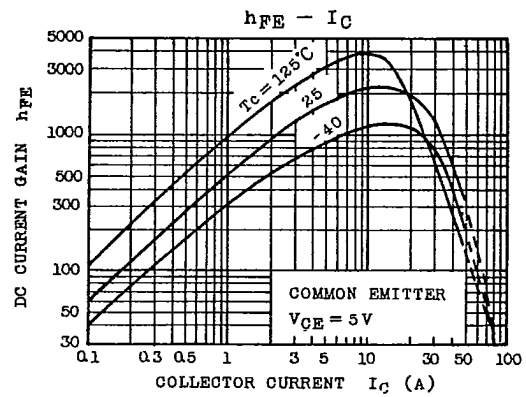
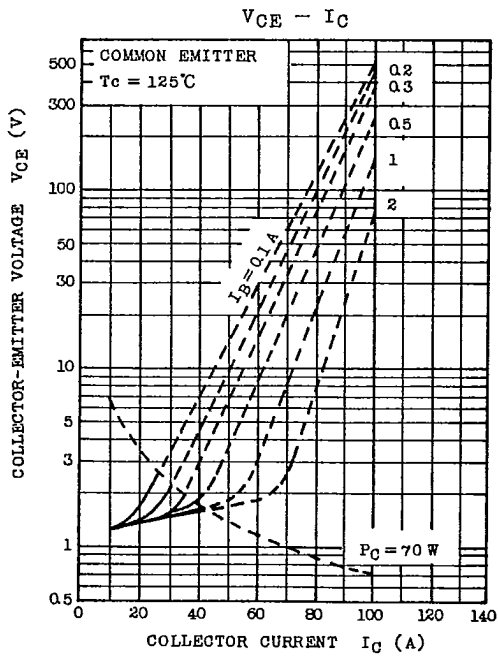
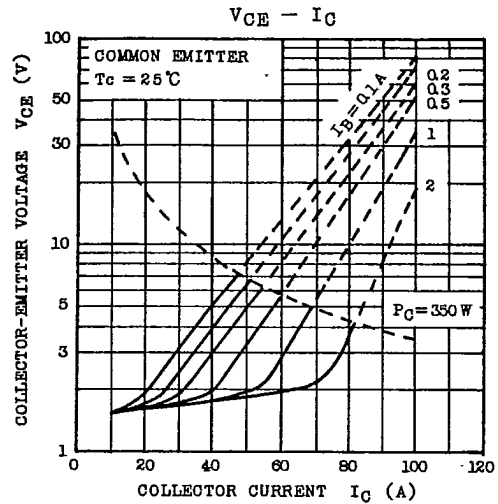
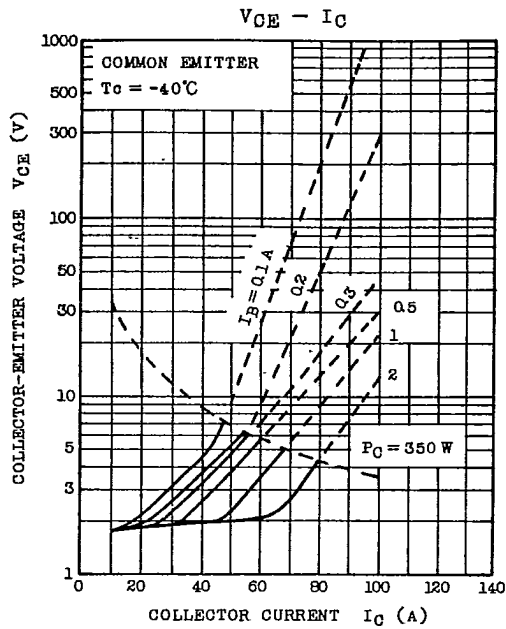
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Collector Cut-off Current		I_{CBO}	$V_{CB}=1000V, I_E=0$	-	-	1.0	mA	
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	-	-	200	mA	
Collector-Emitter Sustaining Voltage		$V_{CEX(SUS)}$	$I_C=1A, V_{BE}=-2V$	1000	-	-	V	
		$V_{CEO(SUS)}$	$I_C=1A, L=40mH$	880	-	-		
DC Current Gain		h_{FE}	$V_{CE}=5V, I_C=50A$	100	-	-		
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=50A, I_B=1A$	-	-	2.5	V	
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	3.5	V	
Switching Time	Turn-on Time	t_{on}		-	-	2.0	μs	
	Storage Time	t_{stg}		$I_{B1}=50\mu s$ I_{B2}	-	-		15
	Fall Time	t_f		$I_{B1}=-I_{B2}=1A$ DUTY CYCLE=0.5%	-	-		5.0
Forward Voltage		V_F	$I_F=50A, I_B=0$	-	-	1.7	V	
Reverse Recovery Time		t_{rr}	$I_F=50A, V_{BE}=-3V$ $di/dt=100A/\mu s$	-	-	1.0	μs	
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	0.35	°C/W	
			Diode	-	-	1.3		

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