

TOSHIBA SEMICONDUCTOR TECHNICAL DATA

TOSHIBA GTR MODULE
MG50M2CK1

SILICON NPN TRIPLE DIFFUSED TYPE

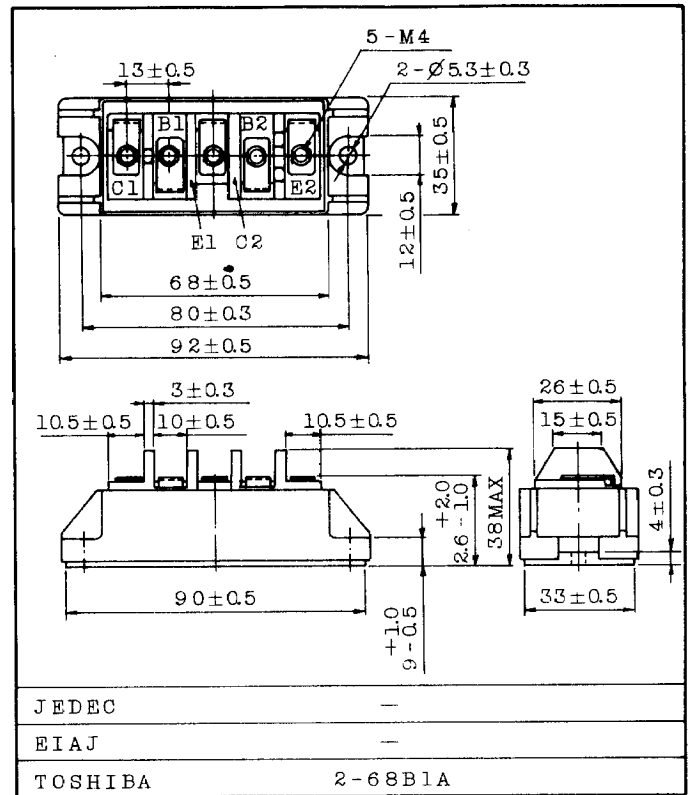
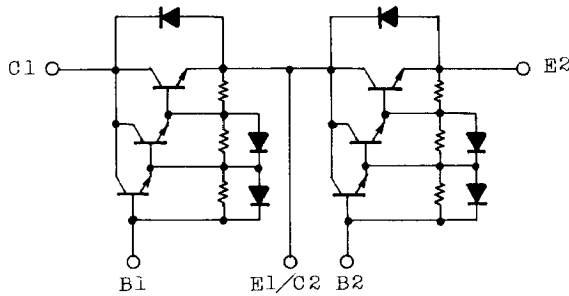
HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

Unit in mm

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
: $V_{CE(\text{sat})}=2.5V(\text{Max.})(I_C=50A)$

EQUIVALENT CIRCUIT



Weight : 215g

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
Collector-Emitter Sustaining Voltage	$V_{CEO(\text{SUS})}$	900	V
Emitter-Base Voltage	V_{EBO}	7	V
Collector Current	DC	I_C	50
	1ms	I_{CP}	100
Forward Current	DC	I_F	50
	1ms	I_{FM}	100
Base Current	I_B	3	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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⊙ The products described in this document are strategic products subject to COCOM regulations.

EGA-MG50M2CK1-1

1986-9-10

TOSHIBA CORPORATION

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =1000V, I _E =0	-	-	1.0	mA
Emitter Cut-off Current		IEBO	V _{EB} =7V, I _C =0	-	-	200	mA
Collector-Emitter Sustaining Voltage		V _{CEX(SUS)}	I _C =0.5A, V _{BE} =-2V	1000	-	-	V
		V _{CEO(SUS)}	I _C =0.5A, L=40mH	900	-	-	
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}	<p> INPUT OUTPUT 50µs I_{B1} I_{B2} V_{CC}=600V </p>	-	-	2.0	µs
	Storage Time	t _{stg}		-	-	15	
	Fall Time	t _f		I _{B1} =1A, I _{B2} =-3A DUTY CYCLE=0.5%	-	-	
Forward Voltage		V _F	I _F =50A, I _B =0	-	-	1.5	V
Reverse Recovery Time		t _{rr}	I _F =50A, V _{BE} =-3V di/dt=100A/µs	-	-	2.0	µs
Thermal Resistance		R _{th(j-c)}	Transistor	-	-	0.35	°C/W
			Diode	-	-	1.3	

