

MG60M1A1

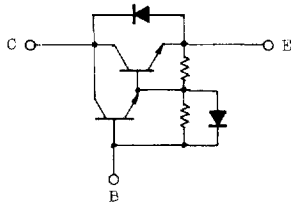
GTR MODULE
SILICON NPN TRIPLE DIFFUSED TYPE

HIGH POWER SWITCHING APPLICATIONS.
INDUCTION HEATING APPLICATIONS.

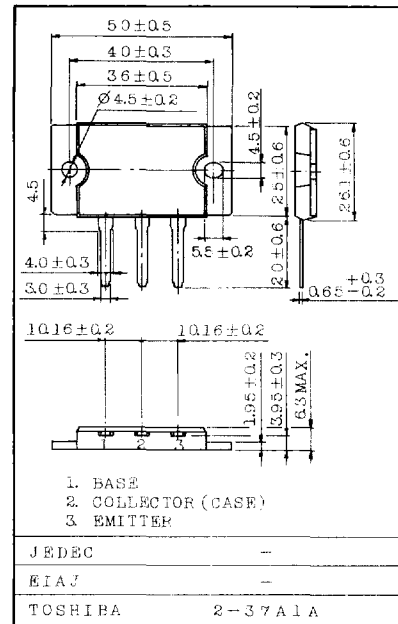
FEATURES:

- With Built-in Free Wheeling Diode
- High DC Current Gain : $h_{FE}=100(\text{Min.})(I_C=60A)$
- Low Saturation Voltage : $V_{CE}(\text{sat})=2V(\text{Max.})(I_C=60A)$
- High Speed : $t_f=1\mu s(\text{Max.})(I_C=60A)$

EQUIVALENT CIRCUIT



Unit in mm



MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	900	V
Collector-Emitter Sustaining Voltage	$V_{CEX}(\text{SUS})$	900	V
	$V_{CEO}(\text{SUS})$	450	
Emitter-Base Voltage	V_{EBO}	10	V
Collector Current	DC	I_C	A
	1ms	I_{CP}	
Forward Current	DC	I_F	A
	1ms	I_{FM}	
Base Current	I_B	6	A
Collector Power Dissipation (Tc=25°C)	P_C	300	W
Junction Temperature	T_j	150	°C
Storage Temperature Range	T_{stg}	-55~150	°C
Screw Torque	-	20	kg·cm

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		ICBO	V _{CB} =900V, I _E =0	-	-	1	mA
Emitter Cut-off Current		IEBO	VEB=10V, IC=0	-	-	300	mA
Collector-Emitter Sustaining Voltage		V _{CEO(SUS)}	IC=0.5A, L=40mH	450	-	-	V
DC Current Gain		h _{FE}	V _{CE} =5V, IC=60A	100	-	-	-
Collector-Emitter Saturation Voltage		V _{CE(sat)}	IC=60A, IB=1.2A	-	1.5	2.0	V
Base-Emitter Saturation Voltage		V _{BE(sat)}		-	2.0	2.5	V
Switching Time	Turn-on Time	t _{on}		-	2.5	3.5	µs
	Storage Time	t _{stg}		-	3.0	5.0	
	Fall Time	t _f		IB1=1.2A, IB2=-10A DUTY CYCLE=0.5%	-	0.5	
Forward Voltage		V _F	IF=60A, IB=0	-	1.2	1.5	V
Reverse Recovery Time		t _{rr}	IF=60A, VBE=-5V di/dt=10A/µs	-	2.2	3.0	µs
Thermal Resistance		R _{th(j-c)}	Transistor	-	-	0.42	°C/W
			Diode	-	-	0.75	

