

SILICON NPN TRIPLE DIFFUSED TYPE

MG100H2CK1

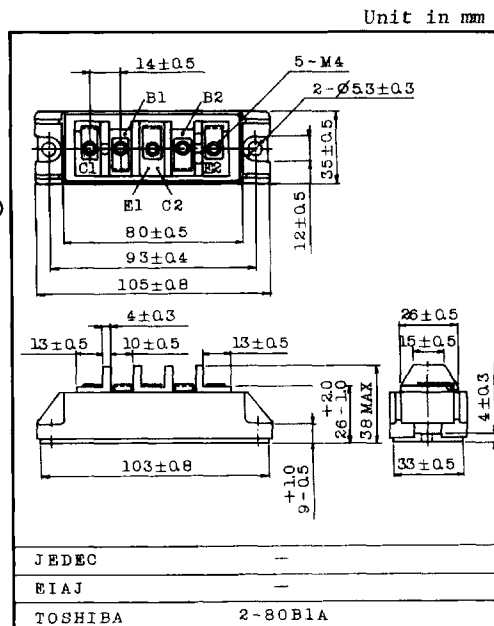
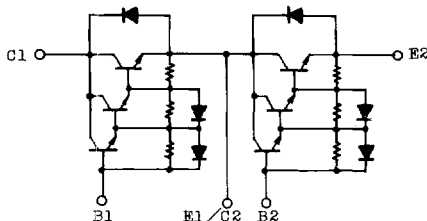
HIGH POWER SWITCHING APPLICATIONS.

MOTOR CONTROL APPLICATIONS.

FEATURES:

- . The Collector is Isolated from Case
- . With Built-in Free Wheeling Diodes
- . High DC Current Gain : $h_{FE}=200(\text{Min.})(I_C=100A)$
- . Low Saturation Voltage: $V_{CE(sat)}=2.5V(\text{Max.})$
($I_C=100A$)
- . High Speed : $t_f=3\mu s(\text{Max.})(I_C=100A)$

EQUIVALENT CIRCUIT



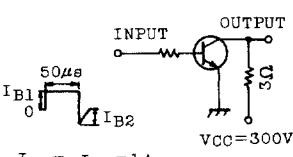
Weight : 240g

MAXIMUM RATINGS (T_a=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V _{CBO}	600	V
Collector-Emitter Sustaining Voltage		V _{CES(SUS)}	600	V
Collector-Emitter Sustaining Voltage		V _{CEO(SUS)}	550	V
Emitter-Base Voltage		V _{EB0}	7	V
Collector Current	DC	I _C	100	A
	1ms	I _{CP}	200	A
Forward Current	DC	I _F	100	A
	1ms	I _{FM}	200	A
Base Current		I _B	3	A
Collector Power Dissipation (T _c =25°C)		P _C	400	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

MG100H2CK1

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB}=600V, I_E=0$	-	-	1.0	mA
Emitter Cut-off Current		I_{EBO}	$V_{EB}=7V, I_C=0$	-	-	200	mA
Collector-Emitter Sustaining Voltage		$V_{CEO(SUS)}$	$I_C=0.5A, L=40mH$	550	-	-	V
DC Current Gain		h_{FE}	$V_{CE}=5V, I_C=100A$	200	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=100A, I_B=1A$	-	-	2.5	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$		-	-	3.5	V
Switching Time	Turn-on Time	t_{on}	 $I_{B1} = -I_{B2} = 1A$ DUTY CYCLE=0.5%	-	-	2.0	μs
	Storage Time	t_{stg}		-	-	12	
	Fall Time	t_f		-	-	3.0	
Forward Voltage		V_F	$I_F=100A, I_B=0$	-	-	1.8	V
Reverse Recovery Time		t_{rr}	$I_F=100A, V_{BE}=-3V$ $di/dt=100A/\mu s$	-	-	0.7	μs
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	0.31	$^{\circ}C/W$
			Diode	-	-	1.3	

