

# MG300J2YS40

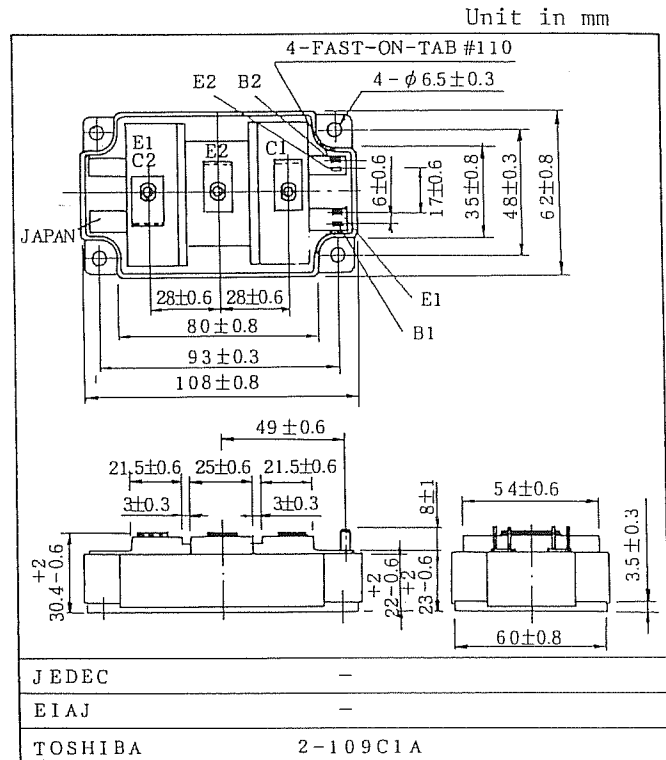
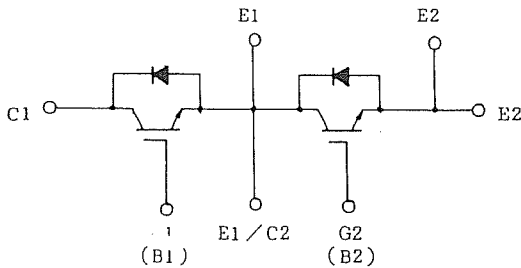
SILICON N CHANNEL IGBT

HIGH POWER SWITCHING APPLICATIONS.

MOTOR CONTROL APPLICATIONS.

- . High Input Impedance
- . High Speed :  $t_f=0.35\mu s$  (Max.)  
 $t_{rr}=0.15\mu s$  (Max.)
- . Low Saturation Voltage  
:  $V_{CE(sat)}=3.5V$  (Max.)
- . Enhancement-Mode
- . Includes a Complete Half Bridge in One Package
- . The Electrodes are Isolated from Case.

## EQUIVALENT CIRCUIT



Weight: g

## MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CES}$	600	V
Gate-Emitter Voltage	$V_{GES}$	$\pm 20$	V
Collector Current	DC	$I_C$	300
	1ms	$I_{CP}$	600
Forward Current	DC	$I_F$	300
	1ms	$I_{FM}$	600
Collector Power Dissipation (Tc=25°C)	$P_C$	1200	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)	-	3/3	N·m

ELECTRICAL CHARACTERISTICS (Ta=25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGES	VGE=±20V, VCE=0	-	-	±500	nA
Collector Cut-off Current		ICES	VCE=600V, VGE=0	-	-	2.0	mA
Collector-Emitter Breakdown Voltage		V(BR)CES	IC=10mA, VGE=0	600	-	-	V
Gate-Emitter Cut-off Voltage		VGE(off)	IC=300mA, VCE=5V	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		VCE(sat)	IC=300A, VGE=15V	-	2.7	3.5	V
Input Capacitance		Cies	VCE=10V, VGE=0, f=1MHz	-	27200	-	pF
Switching Time	Rise Time	tr		-	0.3	0.6	μs
	Turn-on Time	ton		-	0.4	0.8	
	Fall Time	tf		-	0.18	0.35	
	Turn-off Time	toff		-	0.6	1.00	
Forward Voltage		VF	IF=300A, VGE=0	-	1.7	2.5	V
Reverse Recovery Time		trr	IF=300A, VGE=-10V di/dt=200A/μs	-	0.08	0.15	μs
Thermal Resistance		Rth(j-c)	Transistor	-	-	0.104	°C/W
			Diode	-	-	0.25	