

MG300J2YS40

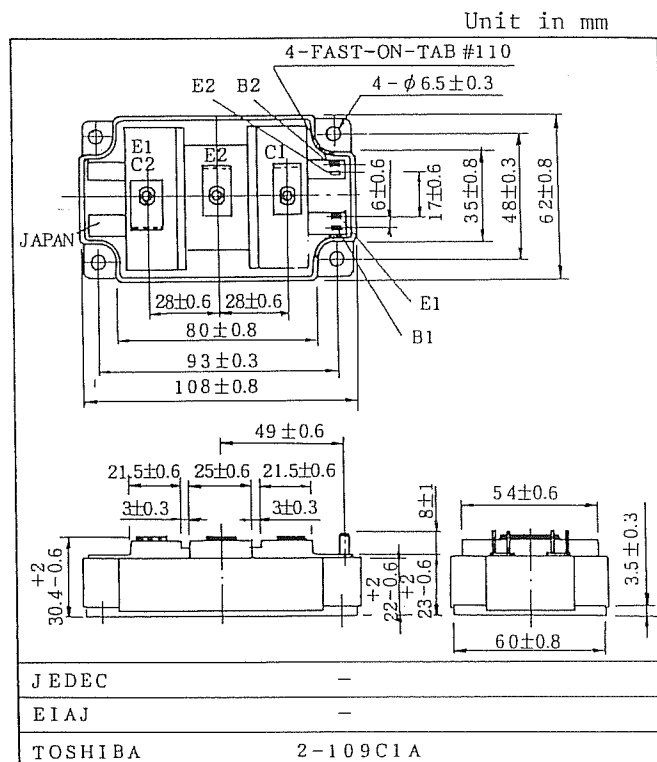
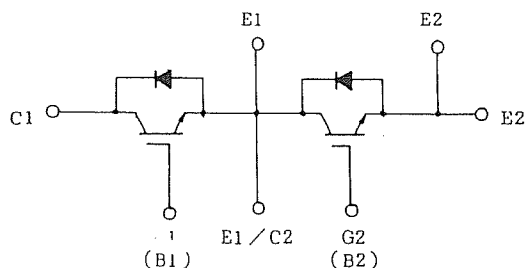
SILICON N CHANNEL IGBT

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

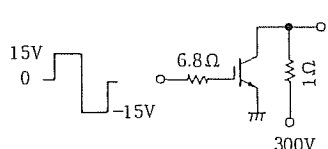


Weight: g

MAXIMUM RATINGS ($T_a=25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	600	V
Gate-Emitter Voltage		V_{GES}	± 20	V
Collector Current	DC	I_C	300	A
	1ms	I_{CP}	600	
Forward Current	DC	I_F	300	A
	1ms	I_{FM}	600	
Collector Power Dissipation ($T_c=25^\circ C$)		P_C	1200	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	-40~125	$^\circ C$
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		I_{GES}	$V_{GE}=\pm 20V, V_{CE}=0$	-	-	± 500	nA
Collector Cut-off Current		I_{CES}	$V_{CE}=600V, V_{GE}=0$	-	-	2.0	mA
Collector-Emitter Breakdown Voltage		$V_{(BR)CES}$	$I_C=10mA, V_{GE}=0$	600	-	-	V
Gate-Emitter Cut-off Voltage		$V_{GE(off)}$	$I_C=300mA, V_{CE}=5V$	3.0	-	6.0	V
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	$I_C=300A, V_{GE}=15V$	-	2.7	3.5	V
Input Capacitance		C_{ies}	$V_{CE}=10V, V_{GE}=0, f=1MHz$	-	27200	-	pF
Switching Time	Rise Time	t_r		-	0.3	0.6	μs
	Turn-on Time	t_{on}		-	0.4	0.8	
	Fall Time	t_f		-	0.18	0.35	
	Turn-off Time	t_{off}		-	0.6	1.00	
Forward Voltage		V_F	$I_F=300A, V_{GE}=0$	-	1.7	2.5	V
Reverse Recovery Time		t_{rr}	$I_F=300A, V_{GE}=-10V$ $di/dt=200A/\mu s$	-	0.08	0.15	μs
Thermal Resistance		$R_{th(j-c)}$	Transistor	-	-	0.104	$^{\circ}C/W$
			Diode	-	-	0.25	