

TOSHIBA

MG300Q2YS40

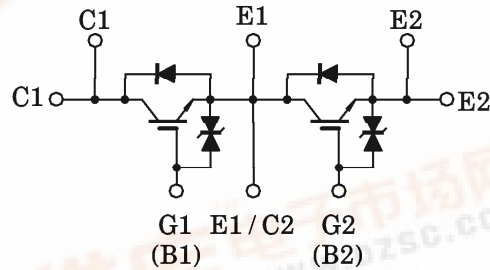
TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

MG300Q2YS40

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

- High Input Impedance
- High Speed : $t_f=0.5\mu s$ (Max.)
 $t_{rr}=0.5\mu s$ (Max.)
- Low Saturation Voltage : $V_{CE(sat)}=4.0V$ (Max.)
- Enhancement-Mode
- The Electrodes are Isolated from Case.
- Outline : TOSHIBA 2-109D2A
(See page 3 for the device outline)
- Weight : 550g (Typ.)

EQUIVALENT CIRCUIT



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	1200	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 (Tc = 25°C)		P_C	1800	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

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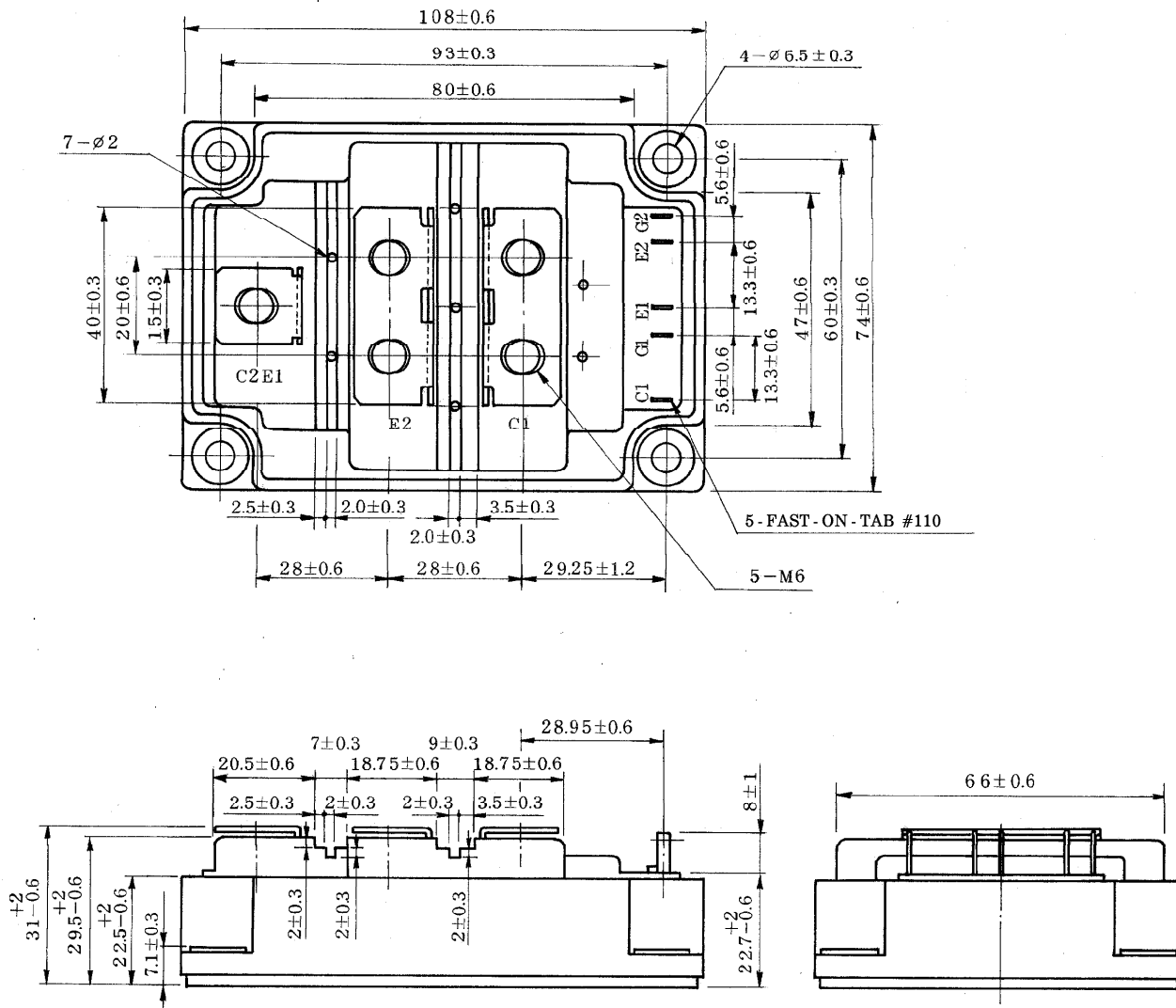


ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		IGES	VGE = ±20V, VCE = 0	—	—	±30	μA
Collector Cut-off Current		ICES	VCE = 1200V, VGE = 0	—	—	3.0	mA
Gate-Emmitter Cut-off Voltage		VGE(OFF)	IC = 300mA, VCE = 5V	3.0	—	6.0	V
Collector-Emmitter Saturation Voltage		VCE(sat)	IC = 300A, VGE = 15V	—	3.0	4.0	V
Input Capacitance		Cies	VCE = 10V, VGE = 0, f = 1MHz	—	36000	—	pF
Switching Time	Rise Time	tr		—	0.3	0.6	μs
	Turn-on Time	ton		—	0.4	0.8	
	Fall Time	tf		—	0.2	0.5	
	Turn-off Time	t _{off}		—	0.8	1.5	
Forward Voltage		VF	IF = 300A, VGE = 0	—	2.0	3.0	V
Reverse Recovery Time		t _{rr}	IF = 300A, VGE = -10V di / dt = 300A / μs	—	0.25	0.5	μs
Thermal Resistance		R _{th(j-c)}	Transistor	—	—	0.069	°C / W
			Diode	—	—	0.25	

OUTLINE : TOSHIBA 2-109D2A

Unit in mm



Weight : 550g (Typ.)

