

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

MG75Q1JS40

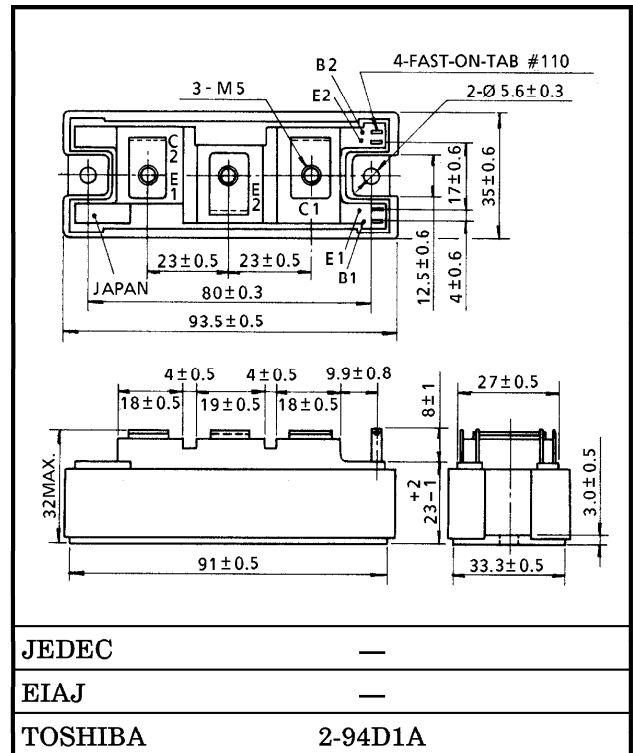
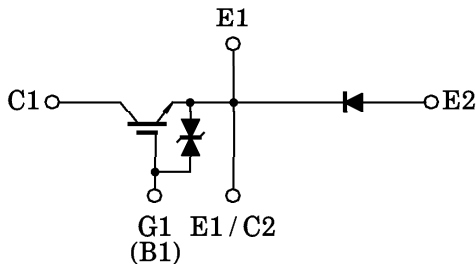
HIGH POWER SWITCHING APPLICATIONS

Unit in mm

CHOPPER APPLICATIONS

- High Input Impedance
- High Speed : $t_f = 0.5 \mu s$ (Max.)
 $t_{rr} = 0.5 \mu s$ (Max.)
- Low Saturation Voltage
: $V_{CE(sat)} = 4.0 V$ (Max.)
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Weight : 202 g

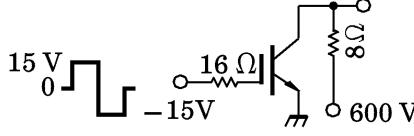
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MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V _{CES}	1200	V
Gate-Emitter Voltage		V _{GES}	±20	V
Collector Current	DC	I _C	75	A
	1ms	I _{CP}	150	
Forward Current	DC	I _F	75	A
	1ms	I _{FM}	150	
Collector Power Dissipation (T _c = 25°C)		P _C	560	W
Junction Temperature		T _j	150	°C
Storage Temperature Range		T _{stg}	-40~125	°C
Isolation Voltage		V _{Isol}	2500 (AC 1 min)	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} = ±20 V, V _{CE} = 0	—	—	±10	μA
Collector Cut-off Current		I _{CES}	V _{CE} = 1200 V, V _{GE} = 0	—	—	1.0	mA
Gate-Emitter Cut-off Voltage		V _{GE (off)}	I _C = 75 mA, V _{CE} = 5 V	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 75 A, V _{GE} = 15 V	—	3.0	4.0	V
Input Capacitance		C _{ies}	V _{CE} = 10 V, V _{GE} = 0, f = 1 MHz	—	9000	—	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		—	0.2	0.5	
	Turn-off Time	t _{off}		—	0.8	1.5	
Forward Voltage		V _F	I _F = 75 A, V _{GE} = 0	—	2.0	3.0	V
Reverse Recovery Time		t _{rr}	I _F = 75 A, V _{GE} = -10 V di / dt = 100 A / μs	—	0.25	0.5	μs
Thermal Resistance	Transistor	R _{th (j-c)}	—	—	—	0.22	°C / W
	Diode			—	—	0.8	

