

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

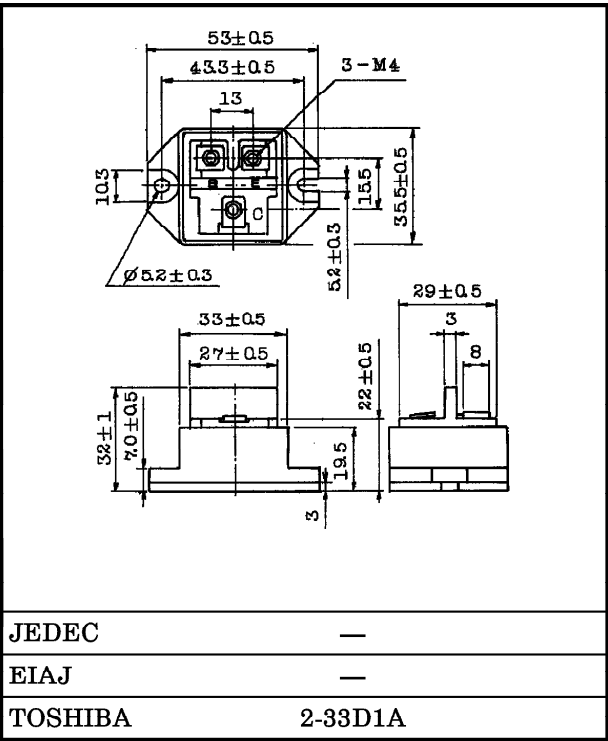
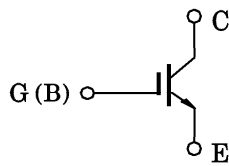
MG25Q1BS11

HIGH POWER SWITCHING APPLICATIONS.
MOTOR CONTROL APPLICATIONS.

Unit in mm

- High Input Impedance
- High Speed : $t_f=1.0\mu s$ (Max.)
- Low Saturation Voltage : $V_{CE(sat)}=2.7V$ (Max.)
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



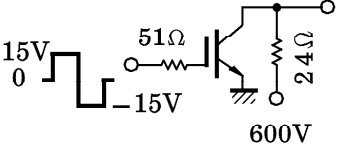
MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	1200	V
Gate-Emitter Voltage		V_{GES}	± 20	V
Collector Current	DC	I_C	25	A
	1ms	I_{CP}	50	
Collector Power Dissipation (Tc = 25°C)		P_C	150	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)		—	2 / 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	—	—	±500	nA
Collector Cut-off Current		ICES	VCE = 1200V, VGE = 0	—	—	1.0	mA
Collector-Emitter Voltage		VCES	IC ≤ 1mA, VGE = 0 Note 1	1200	—	—	V
Gate-Emitter Cut-off Voltage		VGE(OFF)	IC = 25mA, VCE = 5V	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		VCE(sat)	IC = 25A, VGE = 15V	—	2.3	2.7	V
Input Capacitance		Cies	VCE = 10V, VGE = 0, f = 1MHz	—	3000	—	pF
Switching Time	Rise Time	tr		—	0.3	0.6	μs
	Turn-on Time	ton		—	0.4	0.8	
	Fall Time	tf		—	0.6	1.0	
	Turn-off Time	toff		—	1.2	1.8	
Thermal Resistance		Rth(j-c)	—	—	—	0.83	°C/W

Note 1 : Do not apply the over rating voltage.

