

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

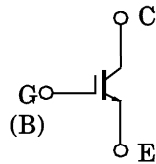
MG150J1BS11

HIGH POWER SWITCHING APPLICATIONS

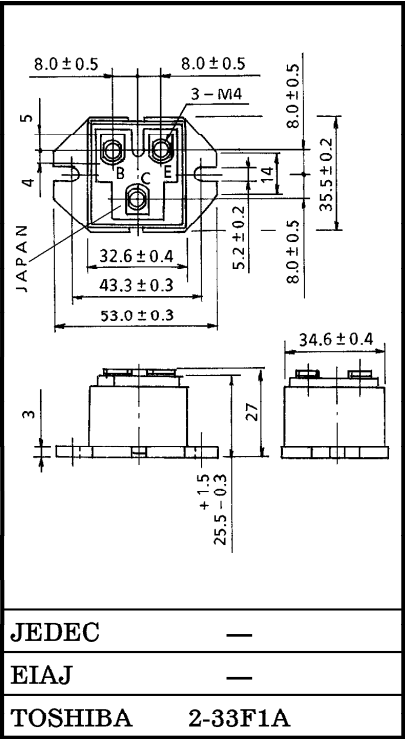
MOTOR CONTROL APPLICATIONS

- High Input Impedance
- High Speed : $t_f=1.0\mu s$ (Max.) ($I_C=150A$)
- Low Saturation Voltage : $V_{CE(sat)}=2.7V$ (Max.) ($I_C=150A$)
- Enhancement-Mode
- The Electrodes are Isolated from Case.

EQUIVALENT CIRCUIT



Unit in mm



MAXIMUM RATINGS (Ta = 25°C)

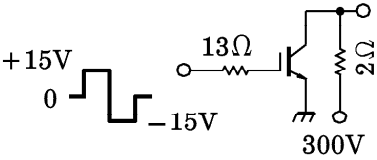
CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	600	V
Gate-Emitter Voltage		V_{GES}	± 20	V
Collector Current	DC	I_C	150	A
	1ms	I_{CP}	300	
Collector Power Dissipation		P_C	450	W
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	$-40\sim 125$	°C
Isolation Voltage		V_{Isol}	2500 (AC 1 minute)	V
Screw Torque (Terminal / Mounting)		—	2 / 3	N·m

Weight : 86g

961001FAA1

- TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

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	—	—	1.0	mA
Gate-Emitter Cut-Off Voltage		VGE (off)	VCE = 5V, IC = 150mA	3.0	—	6.0	V
Collector-Emitter Saturation Voltage		VCE (sat)	IC = 150A, VGE = 15V	—	2.3	2.7	V
Input Capacitance		Cies	VCE = 10V, VGE = 0, f = 1MHz	—	12000	—	pF
Switching Time	Rise Time	tr		—	0.3	0.8	μs
	Turn-On Time	ton		—	0.4	1.0	
	Fall Time	tf		—	0.6	1.0	
	Turn-Off Time	toff		—	1.0	1.6	
Thermal Resistance		Rth (j-c)		—	—	0.278	°C / W

