

TOSHIBA GTR MODULE SILICON N CHANNEL IGBT

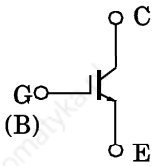
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HIGH POWER SWITCHING APPLICATIONS

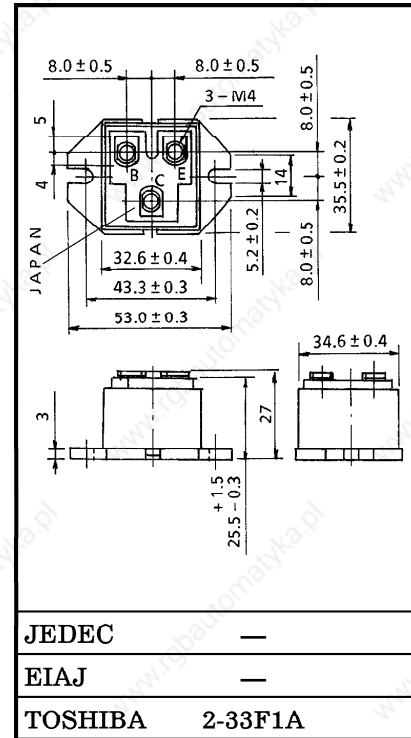
MOTOR CONTROL APPLICATIONS

- 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



Weight : 86g

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	150
	1ms	I_{CP}	300
Collector Power Dissipation	P_C	450	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)	—	2 / 3	N·m

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ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I _{GES}	V _{GE} = ±20V, V _{CE} = 0	—	—	±500	nA
Collector Cut-Off Current		I _{CES}	V _{CE} = 600V, V _{GE} = 0	—	—	1.0	mA
Gate-Emmitter Cut-Off Voltage		V _{GE (off)}	V _{CE} = 5V, I _C = 150mA	3.0	—	6.0	V
Collector-Emmitter Saturation Voltage		V _{CE (sat)}	I _C = 150A, V _{GE} = 15V	—	2.3	2.7	V
Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz	—	12000	—	pF
Switching Time	Rise Time	t _r		—	0.3	0.8	μs
	Turn-On Time	t _{on}		—	0.4	1.0	
	Fall Time	t _f		—	0.6	1.0	
	Turn-Off Time	t _{off}		—	1.0	1.6	
Thermal Resistance		R _{th (j-c)}		—	—	0.278	°C / W

