

TOSHIBA

GT40M101

TOSHIBA INSULATED GATE BIPOlar TRANSISTOR SILICON N-CHANNEL IGBT

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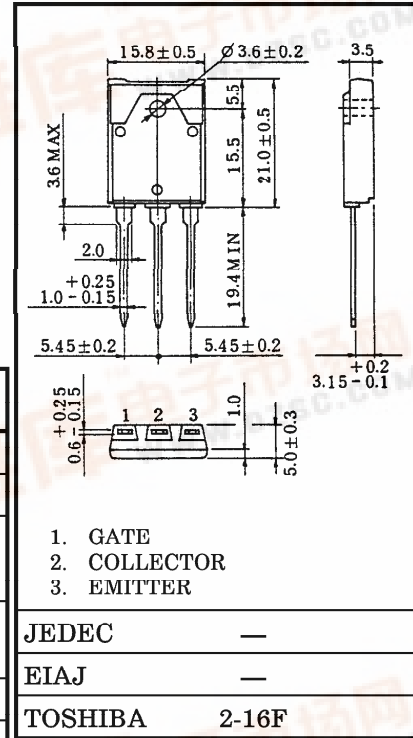
HIGH POWER SWITCHING APPLICATIONS.

Unit in mm

- High Input Impedance
- High Speed : $t_f = 0.4 \mu s$ (Max.)
- Low Saturation Voltage : $V_{CE(sat)} = 3.4V$ (Max.)
- Enhancement-Mode

MAXIMUM RATINGS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	900	V
Gate-Emitter Voltage		V_{GES}	± 25	V
Collector Current	DC	I_C	40	A
	1ms	I_{CP}	80	
Collector Power Dissipation ($T_c = 25^\circ C$)		P_C	90	W
Junction Temperature		T_j	150	$^\circ C$
Storage Temperature Range		T_{stg}	$-55 \sim 150$	$^\circ C$
Screw Torque		—	0.8	N·m



Weight : 5.8g

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		I_{GES}	$V_{GE} = \pm 25V, V_{CE} = 0$	—	—	± 500	nA
Collector Cut-off Current		I_{CES}	$V_{CE} = 900V, V_{GE} = 0$	—	—	1.0	mA
Gate-Emitter Cut-off Voltage		$V_{GE(OFF)}$	$I_C = 40mA, V_{CE} = 5V$	3.0	—	6.0	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)(1)}$	$I_C = 8A, V_{GE} = 15V$	—	—	2.4	V	
	$V_{CE(sat)(2)}$	$I_C = 40A, V_{GE} = 15V$	—	2.4	3.7		
Input Capacitance		C_{ies}	$V_{CE} = 30V, V_{GE} = 0, f = 1MHz$	—	2100	—	pF
Switching Time	Rise Time	t_r		—	0.30	0.60	μs
	Turn-on Time	t_{on}		—	0.40	0.70	
	Fall Time	t_f		—	0.25	0.40	
	Turn-off Time	t_{off}		—	0.60	1.00	
Thermal Resistance		$R_{th(j-c)}$	—	—	—	1.39	$^\circ C / W$

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