

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

GT40M101

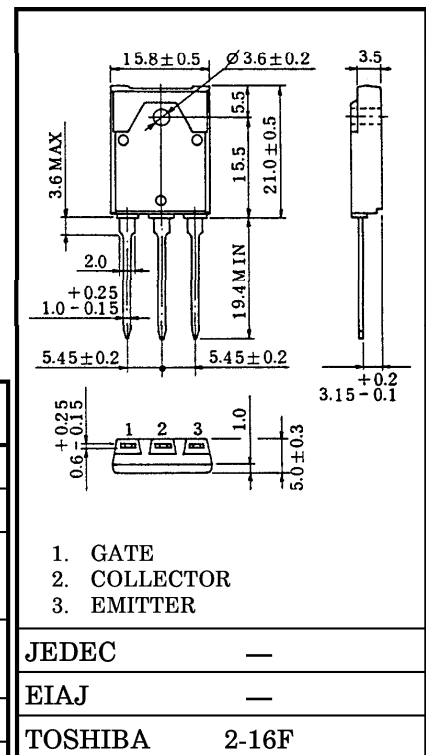
HIGH POWER SWITCHING APPLICATIONS.

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	40	A
	1ms	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	$V_{CE(sat)}$	$I_C = 40A, V_{GE} = 15V$	—	2.1	3.4	V
Input Capacitance	C_{ies}	$V_{CE} = 30V, V_{GE} = 0, f = 1MHz$	—	2100	—	pF
Switching Time	Rise Time	t_r	—	0.30	—	μs
	Turn-on Time	t_{on}	—	0.40	—	
	Fall Time	t_f	—	0.25	0.40	
	Turn-off Time	t_{off}	—	0.60	—	
Thermal Resistance	$R_{th(j-c)}$	—	—	—	1.39	$^\circ C/W$

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