

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

# GT40M101

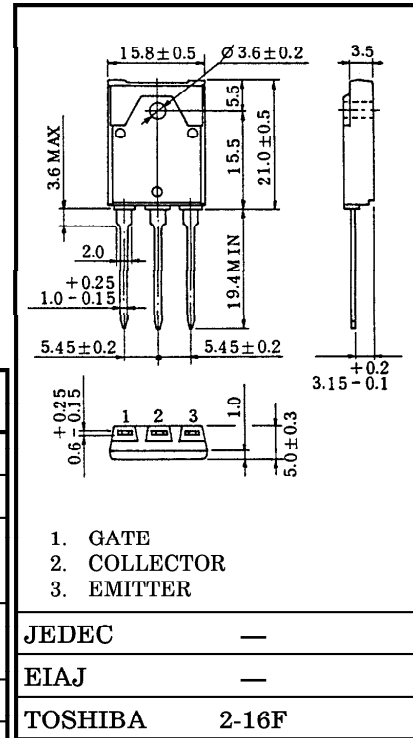
HIGH POWER SWITCHING APPLICATIONS.

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		$V_{GES}$	$\pm 25$	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

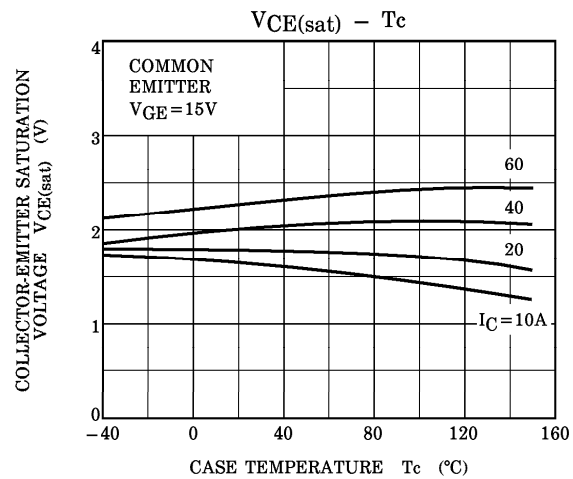
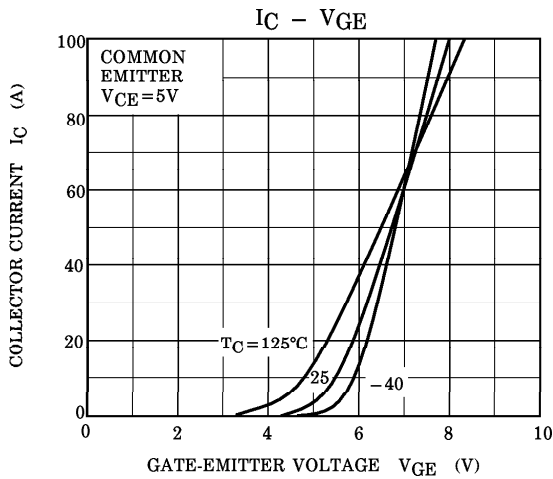
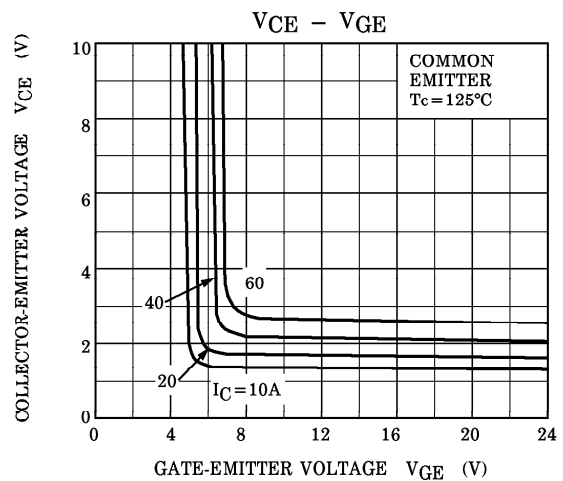
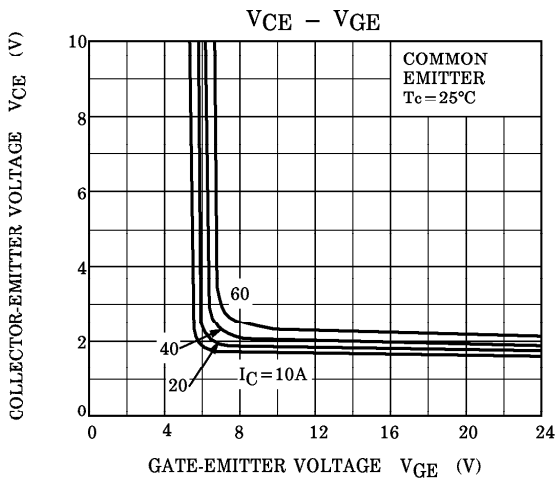
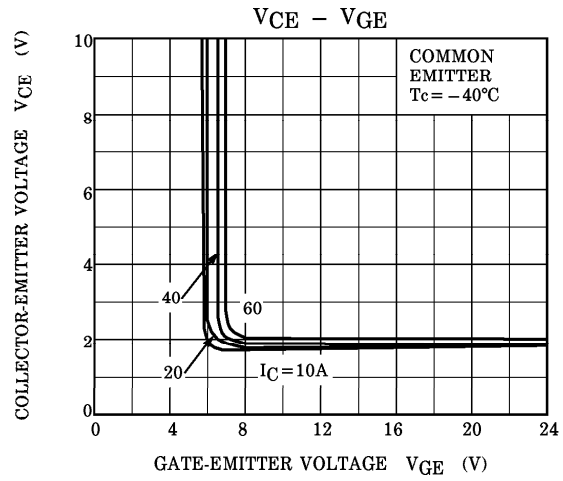
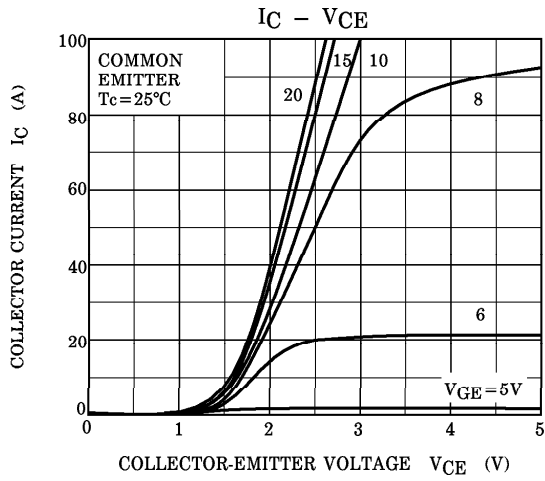


ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current		$I_{GES}$	$V_{GE} = \pm 25V, V_{CE} = 0$	—	—	$\pm 500$	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	$\mu s$
	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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