

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

# GT25G101(SM)

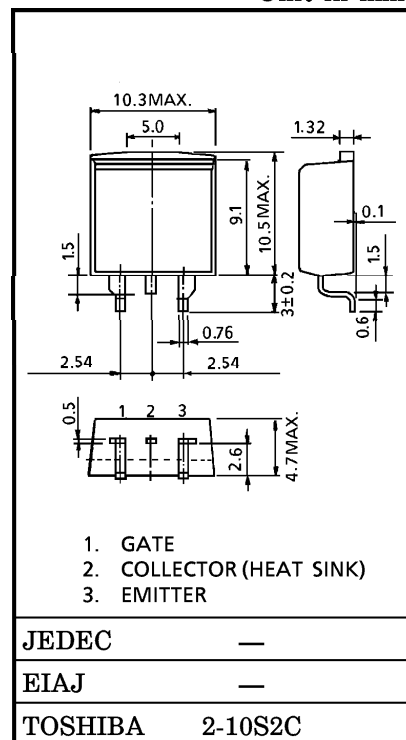
STROBE FLASH APPLICATIONS

Unit in mm

- High Input Impedance
- Low Saturation Voltage :  $V_{CE(sat)}=8V$  (Max.) ( $I_C=170A$ )
- Enhancement-Mode
- 12V Gate Drive

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	$V_{CES}$	400	V
Gate-Emitter Voltage	$V_{GES}$	$\pm 25$	V
Collector Current	DC	$I_C$	25
	1ms	$I_{CP}$	170
Collector Power Dissipation	$T_a = 25^\circ C$	$P_C$	1.3
	$T_c = 25^\circ C$	$P_C$	75
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$



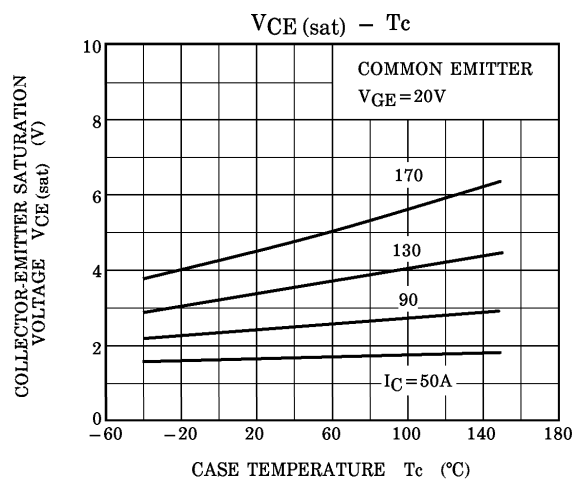
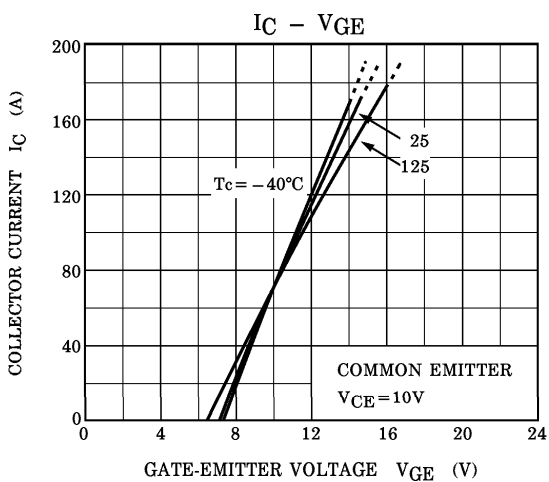
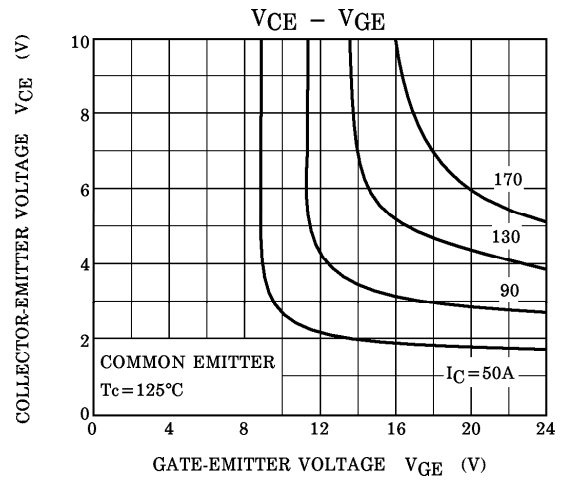
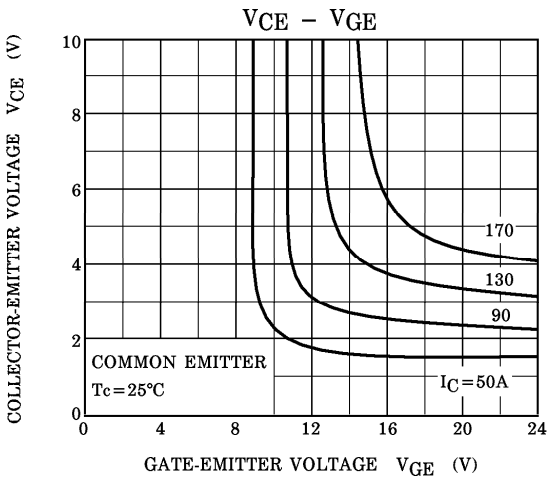
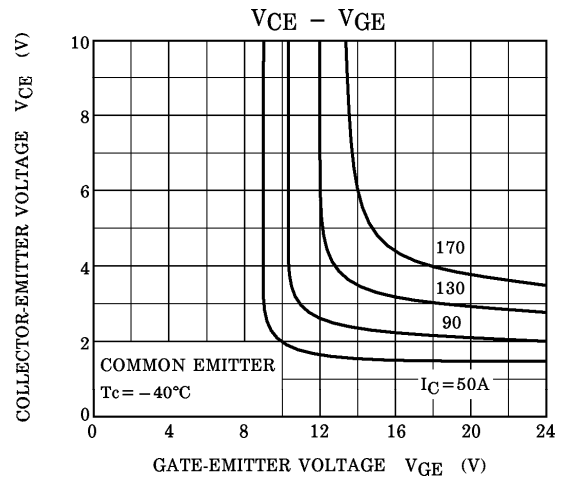
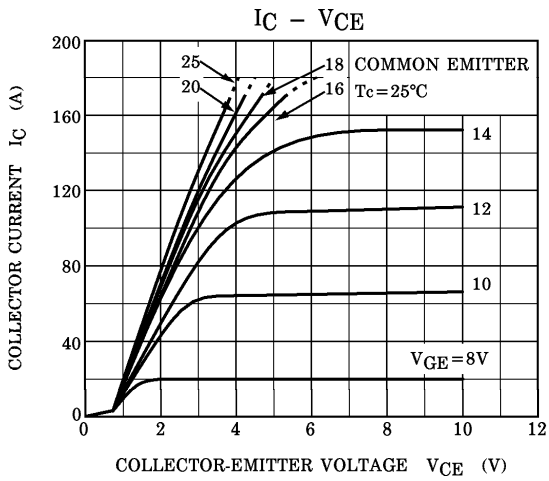
Weight : 1.4g

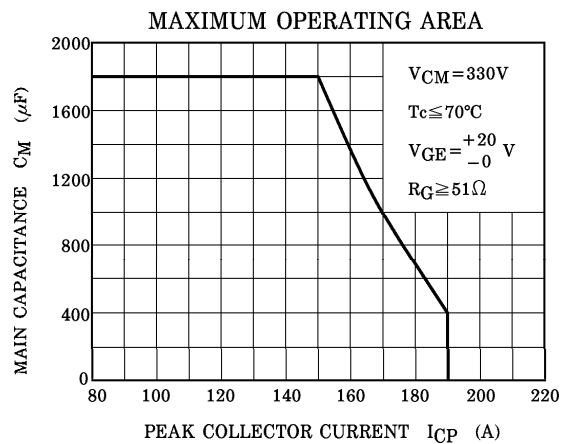
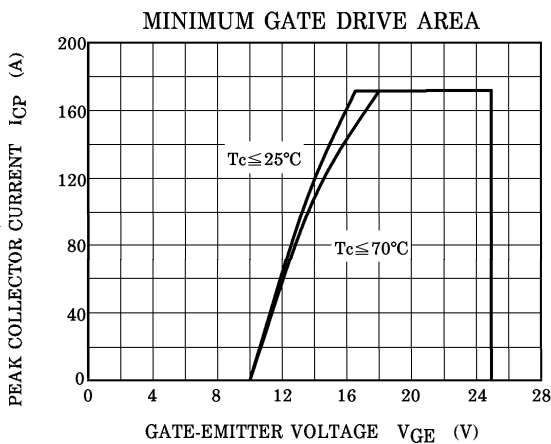
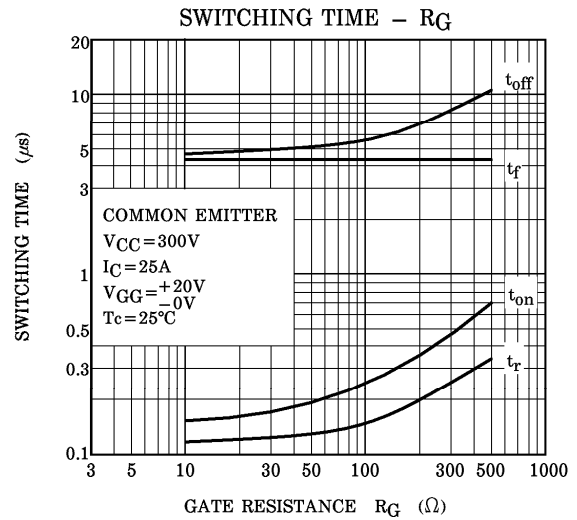
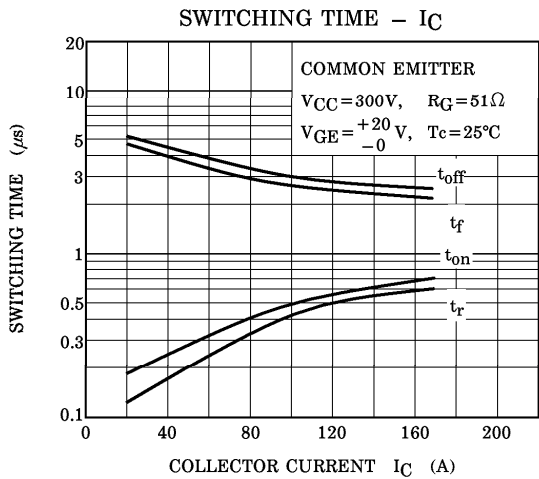
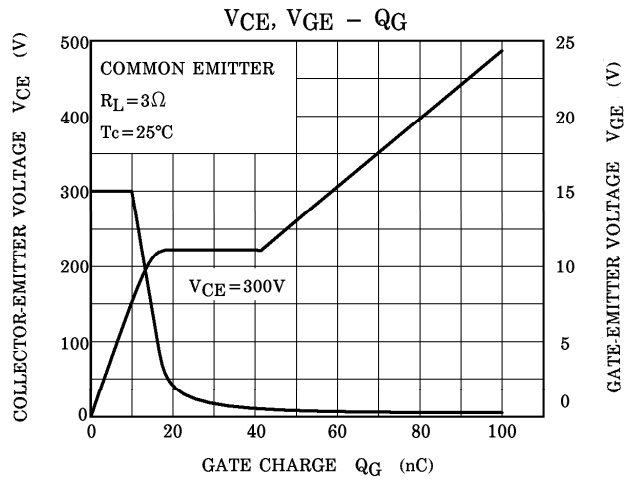
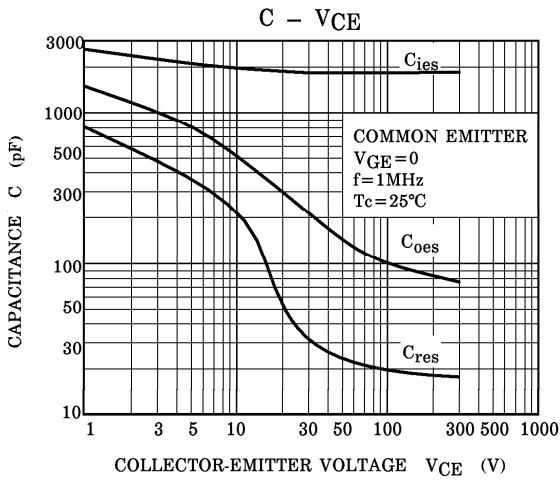
ELECTRICAL CHARACTERISTICS ( $T_a = 25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Gate Leakage Current	$I_{GES}$	$V_{GE} = \pm 25V, V_{CE} = 0$	—	—	$\pm 100$	nA
Collector Cut-off Current	$I_{CES}$	$V_{CE} = 400V, V_{GE} = 0$	—	—	10	$\mu A$
Gate-Emitter Cut-off Voltage	$V_{CE(OFF)}$	$I_C = 1mA, V_{CE} = 5V$	4	5	7	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 170A, V_{GE} = 20V$ (Pulsed)	—	5	8	V
Input Capacitance	$C_{ies}$	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	—	2000	—	pF
Switching Time	Rise Time	 $V_{IN} : t_r \leq 100ns$ $t_f \leq 100ns$ Duty cycle $\leq 1\%$	—	0.1	0.5	$\mu s$
	Turn-on Time		—	0.15	0.5	
	Fall Time		—	4.0	6.0	
	Turn-off Time		—	4.5	7.0	
Thermal Resistance	$R_{th(j-c)}$	—	—	—	1.66	$^\circ C/W$

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