

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

# GT20G102(SM)

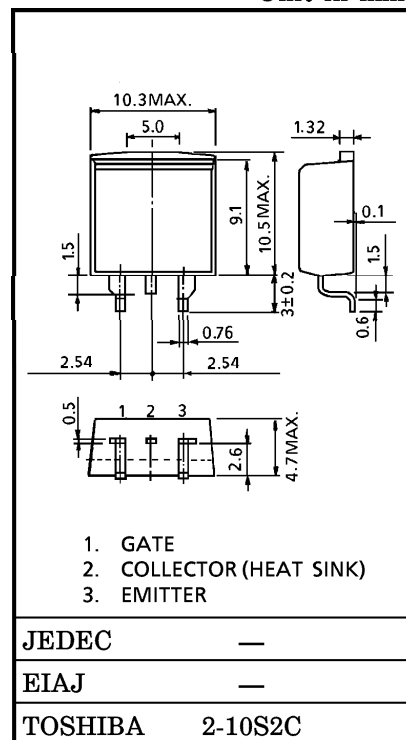
STROBE FLASH APPLICATIONS

Unit in mm

- High Input Impedance
- Low Saturation Voltage :  $V_{CE(sat)} = 8V$  (Max.) ( $I_C = 130A$ )
- 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	$V_{GES}$	$\pm 20$	V
Collector Current	DC	$I_C$	20
	1ms	$I_{CP}$	130
Collector Power Dissipation	$T_a = 25^\circ C$	$P_C$	1.3
	$T_c = 25^\circ C$	$P_C$	60
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	$I_{GES}$	$V_{GE} = \pm 20V, V_{CE} = 0$	—	—	$\pm 100$	nA
Collector Cut-off Current	$I_{CES}$	$V_{CE} = 400V, V_{GE} = 0$	—	—	10	$\mu A$
Gate-Emitter Cut-off Voltage	$V_{CE(OFF)}$	$I_C = 1mA, V_{CE} = 5V$	2	—	5	V
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 130A, V_{GE} = 12V$ (Pulsed)	—	5	8	V
Input Capacitance	$C_{ies}$	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	—	1850	—	pF
Switching Time	Rise Time	$t_r$	—	0.1	0.5	$\mu s$
	Turn-on Time	$t_{on}$	—	0.15	0.5	
	Fall Time	$t_f$	—	4.0	6.0	
	Turn-off Time	$t_{off}$	—	4.5	7.0	
Thermal Resistance	$R_{th(j-c)}$	—	—	—	2.08	$^\circ C/W$

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