

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

GT25G102(SM)

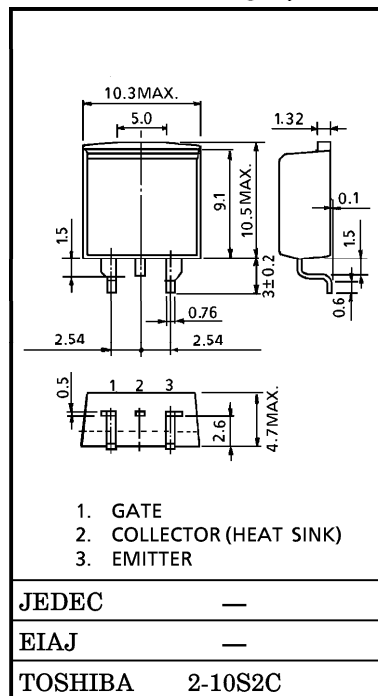
STROBE FLASH APPLICATIONS

Unit in mm

- High Input Impedance
- Low Saturation Voltage : $V_{CE(sat)}=8V$ (Max.) ($I_C=150A$)
- 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}	± 20	V
Collector Current	DC	I_C	25
	1ms	I_{CP}	150
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	$^\circ C$



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

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Gate Leakage Current	I_{GES}	$V_{GE} = \pm 20V, V_{CE} = 0$	—	—	± 100	nA	
Collector Cut-off Current	I_{CES}	$V_{CE} = 400V, V_{GE} = 0$	—	—	10	μA	
Gate-Emitter Cut-off Voltage	$V_{CE(OFF)}$	$I_C = 1mA, V_{CE} = 5V$	2	—	5	V	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150A, V_{GE} = 12V$ (Pulsed)	—	4	8	V	
Input Capacitance	C_{ies}	$V_{CE} = 10V, V_{GE} = 0, f = 1MHz$	—	2600	—	pF	
Switching Time	Rise Time		—	0.1	0.5	μs	
	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	$R_{th(j-c)}$	—	—	—	1.66	$^\circ C / W$	

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