

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

GT20G102(SM)

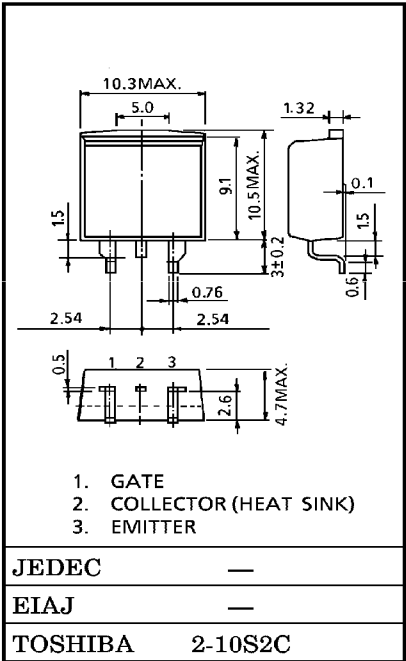
STROBE FLASH APPLICATIONS

Unit in mm

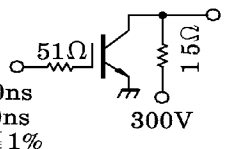
- High Input Impedance
- Low Saturation Voltage : $V_{CE(sat)}=8V$ (Max.) ($I_C=130A$)
- Enhancement-Mode
- 12V Gate Drive

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Emitter Voltage		V_{CES}	400	V
Gate-Emitter Voltage		V_{GES}	± 20	V
Collector Current	DC	I_C	20	A
	1ms	I_{CP}	130	
Collector Power Dissipation	Ta = 25°C	P_C	1.3	A
	Tc = 25°C	P_C	60	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	− 55~150	°C



ELECTRICAL CHARACTERISTICS (Ta = 25°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		$V_{CE(sat)}$	$I_C = 130A, V_{GE} = 12V$ (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	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		$R_{th(j-c)}$	—	—	—	2.08	°C / W

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