TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N-CHANNEL IGBT

GT20G101(SM)

STROBE FLASH APPLICATIONS

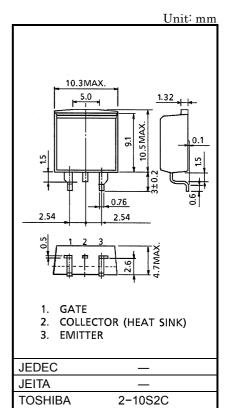
- High Input Impedance
- Low Saturation Voltage : V_{CE} (sat) = 8V (Max.) (I_C = 130A)

ELECTRICAL CHARACTERISTICS (Ta = 25°C)

- Enhancement-Mode
- 20V Gate Drive

MAXIMUM RATINGS (Ta = 25°C)

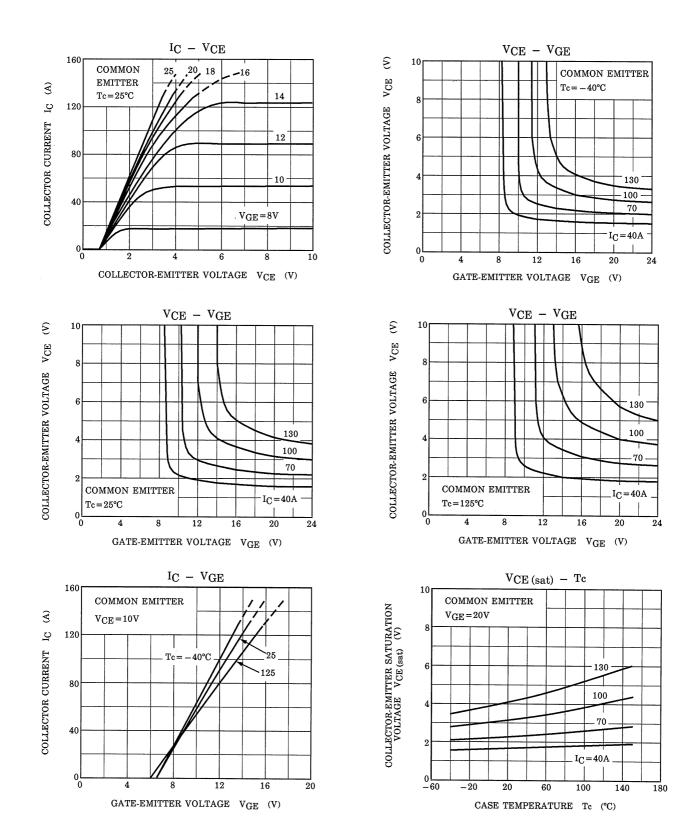
CHARACTERISTIC		SYMBOL	RATING	UNIT	
Collector-Emitter Voltage		V _{CES}	400	V	
Gate-Emitter Voltage		V _{GES}	±25	V	
Collector Current	DC	Ι _C	20	A	
	1ms	I _{CP}	130		
Collector Power Dissipation	Ta = 25°C	P _C	1.3	W	
	Tc = 25°C	P _C	60		
Junction Temperature		Tj	150	°C	
Storage Temperature Range		T _{stg}	-55~150	°C	



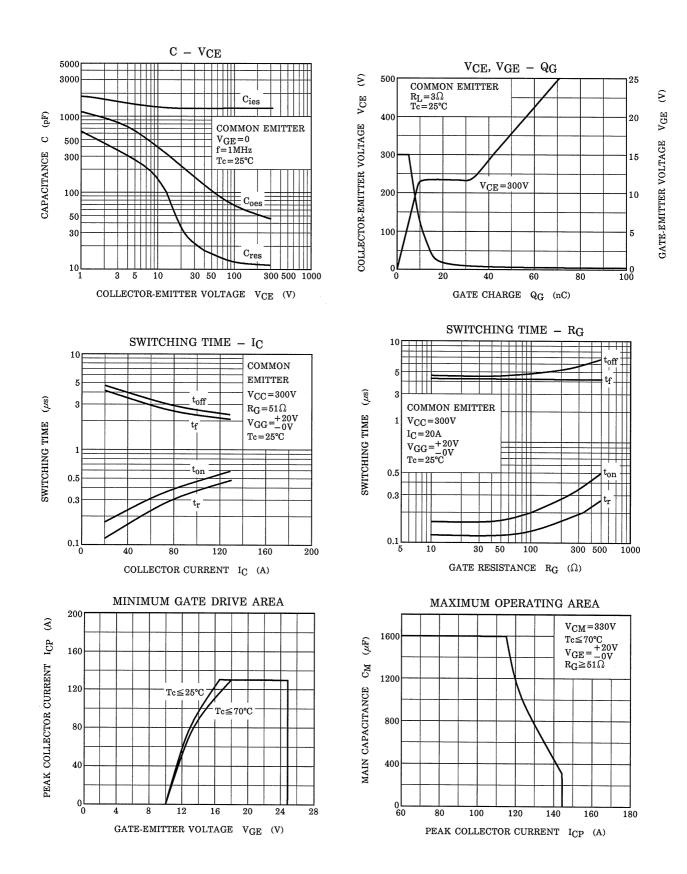
Weight: 1.4g

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Gate Leakage Current		I _{GES}	$V_{GE} = \pm 25V, V_{CE} = 0$	_	—	±100	nA
Collector Cut-off Current		I _{CES}	V _{CE} = 400V, V _{GE} = 0	_	_	10	μA
Gate-Emitter Cut-off Voltage		V _{GE (OFF)}	I _C = 1mA, V _{CE} = 5V	4	5	7	V
Collector-Emitter Saturation Voltage		V _{CE (sat)}	I _C = 130A, V _{GE} = 20V	_	5	8	V
Input Capacitance		C _{ies}	V _{CE} = 10V, V _{GE} = 0, f = 1MHz	_	1350	_	pF
Switching Time	Rise Time	tr	$\begin{array}{c} 20V \\ 0V \\ V_{IN} : t_r \leq 100 ns \\ t_f \leq 100 ns \\ Duty \ cycle \leq 1\% \end{array} \xrightarrow[]{0}{} 0V \\ 300V \end{array}$	_	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}		R _{th (j−c)}	_	_	_	2.08	°C/W

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