TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N CHANNEL IGBT

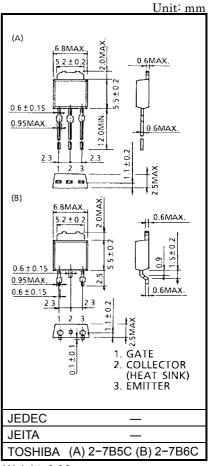
# GT5G103

#### STROBE FLASH APPLICATIONS

- 3rd Generation
- High Input Impedance
- Low Saturation Voltage: VCE (sat) = 8 V (Max.) (IC = 130 A)
- Enhancement-Mode
- 4.5 V Gate Drive

## **MAXIMUM RATINGS (Ta = 25°C)**

CHARACTERISTIC		SYMBOL	RATING	UNIT	
Collector-Emitter Voltage		V <sub>CES</sub>	400	V	
Gate-Emitter Voltage	DC	V <sub>GES</sub>	±6	V	
	Pulse	V <sub>GES</sub>	±8	V	
Collector Current	DC	I <sub>C</sub>	5	Α	
	1 ms	I <sub>CP</sub>	130	Α	
Collector Power Dissipation	Ta = 25°C	PC	1.3	W	
	Tc = 25°C	PC	20	W	
Junction Temperature		Tj	150	°C	
Storage Temperature Range		T <sub>stg</sub>	-55~150	°C	

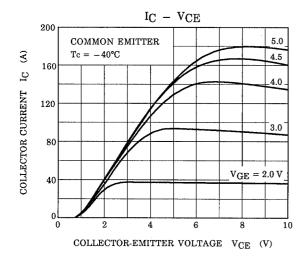


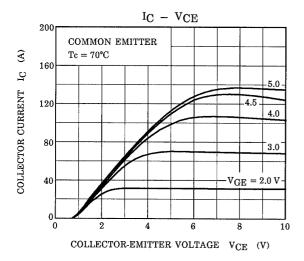
Weight: 0.36 g

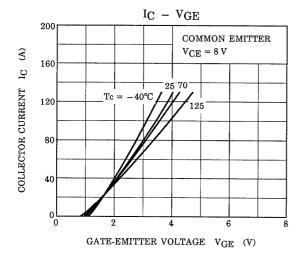
## **ELECTRICAL CHARACTERISTICS (Ta = 25°C)**

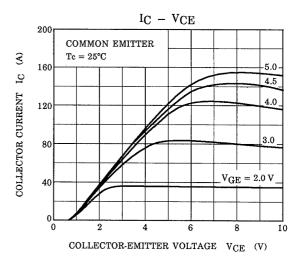
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Gate Leakage Curre	ent	I <sub>GES</sub>	V <sub>GE</sub> = 6 V, V <sub>CE</sub> = 0	_	_	10	μΑ
Collector Cut-off Cu	urrent	I <sub>CES</sub>	V <sub>CE</sub> = 400 V, V <sub>GE</sub> = 0	_	_	10	μΑ
Gate-Emitter Cut-c	off Voltage	V <sub>GE</sub> (OFF)	I <sub>C</sub> = 1 mA, V <sub>CE</sub> = 5 V	0.5	_	1.2	V
Collector-Emitter S	aturation Voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = 130 A, V <sub>GE</sub> = 4.5 V (Pulsed)	_	5	8	V
Input Capacitance		C <sub>ies</sub>	V <sub>CE</sub> = 10 V, V <sub>GE</sub> = 0, f = 1 MHz	_	1900	_	pF
Switching Time	Rise Time	t <sub>r</sub>	$\begin{array}{c c} 4.5  \mathrm{V} & 51  \Omega \\ 0 & 51  \Omega \\ \mathrm{V_{IN}} : t_r \leq 100  \mathrm{ns} & \% & \% \\ & t_f \leq 100  \mathrm{ns} & 300  \mathrm{V} \\ \mathrm{Duty \ cycle} \leq 1\% & \end{array}$	_	0.9	_	μs
	Turn-on Time	t <sub>on</sub>		_	1.1	_	
	Fall Time	t <sub>f</sub>		_	2.0	_	
	Turn-off Time	t <sub>off</sub>		_	2.4	_	
Thermal Resistance		R <sub>th (j-c)</sub>	_	_	_	6.25	°C/W

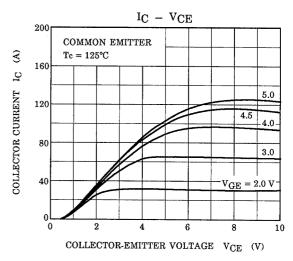
This transistor is an electrostatic sensitive device. Please handle with caution.

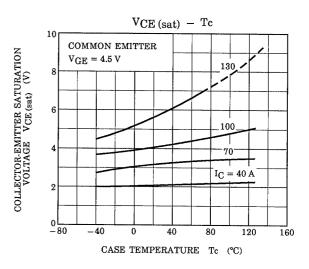


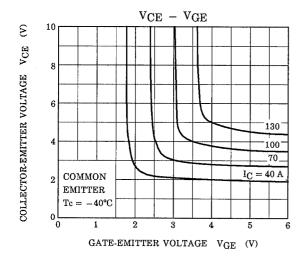


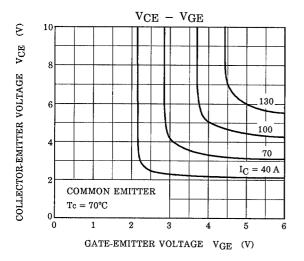


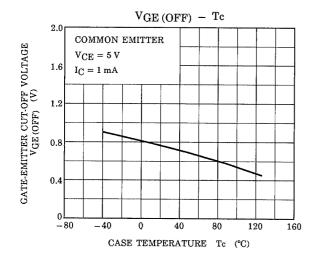


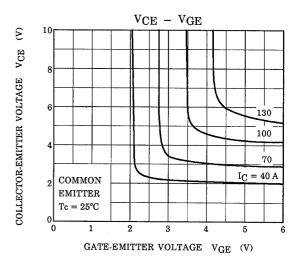


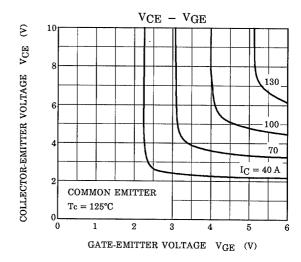


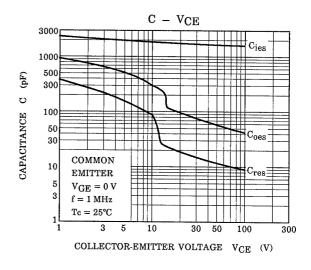






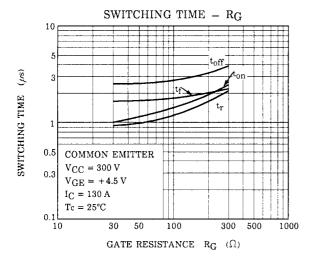


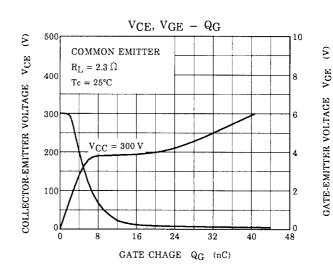


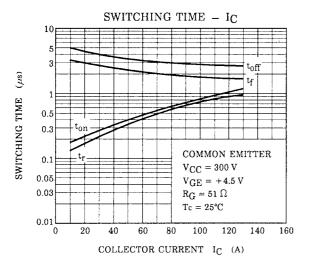


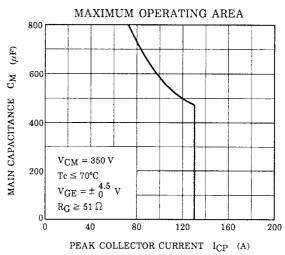
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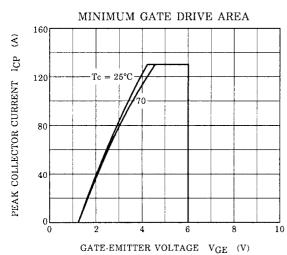
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