TOSHIBA Insulated Gate Bipolar Transistor Silicon N Channel IGBT

# GT8G132

#### Strobe Flash Applications

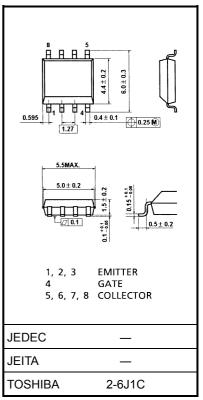
Unit: mm

- Supplied in compact and thin package requires only a small mounting area
- 5th generation (trench gate structure) IGBT
- Enhancement-mode
- 4-V gate drive voltage: VGE = 4.0 V (min) (@IC = 150 A)
- Peak collector current: IC = 150 A (max)

#### Maximum Ratings (Ta = 25°C)

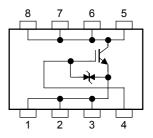
Characteristics		Symbol	Rating	Unit	
Collector-emitter voltage	V <sub>CES</sub>	400	V		
Gate-emitter voltage	DC	V <sub>GES</sub>	±6	V	
	Pulse	$V_{GES}$	±8		
Collector current	DC	Ic	8	A	
	1 ms	I <sub>CP</sub>	150		
Collector power dissipation (Note 1)		P <sub>C</sub>	1.1	W	
Junction temperature		Tj	150	°C	
Storage temperature range		T <sub>stg</sub>	-55~150	°C	

Note 1: Drive operation: Mount on glass epoxy board [1 inch $^2 \times$  1.5 t]



Weight: 0.080 g (typ.)

#### **Equivalent Circuit**



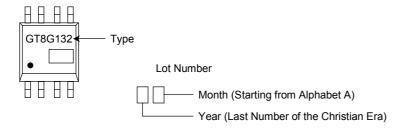
These devices are MOS type. Users should follow proper ESD handling procedures. Operating condition of turn-off dv/dt should be lower than 400 V/ $\mu$ s.

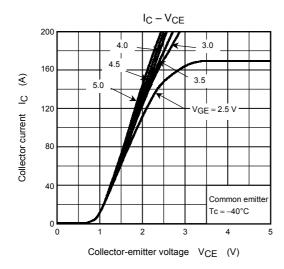
## Electrical Characteristics (Ta = 25°C)

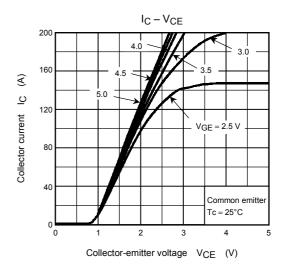
Characteristics		Symbol	Test Condition	Min	Тур.	Max	Unit
Gate leakage current		I <sub>GES</sub>	$V_{GE} = \pm 6 \text{ V}, V_{CE} = 0$	_	_	±10	μΑ
Collector cut-off of	current	I <sub>CES</sub>	V <sub>CE</sub> = 400 V, V <sub>GE</sub> = 0	_	_	10	μΑ
Gate-emitter cut-	off voltage	V <sub>GE</sub> (OFF)	I <sub>C</sub> = 1 mA, V <sub>CE</sub> = 5 V	0.6	_	1.2	V
Collector-emitter	saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = 150 A, V <sub>GE</sub> = 4 V	_	2.3	7.0	V
Input capacitance		C <sub>ies</sub>	$V_{CE} = 10 \text{ V}, V_{GE} = 0, f = 1 \text{ MHz}$	_	2800		pF
Switching time -	Rise time	t <sub>r</sub>	$\begin{array}{c} 4 \text{ V} \\ 0 \\ \hline \\ 0 \\ \hline \\ V_{\text{IN}}: \ t_r \leq 100 \text{ ns} \\ t_f \leq 100 \text{ ns} \\ \text{Duty cycle} \leq 1\% \\ \end{array}$	_	1.0		μο
	Turn-on time	t <sub>on</sub>		_	1.1		
	Fall time	t <sub>f</sub>			1.6		
	Turn-off time	t <sub>off</sub>		_	2.2		
Thermal resistant	ce (Note 2)	R <sub>th (j-a)</sub>	_	_		114	°C/W

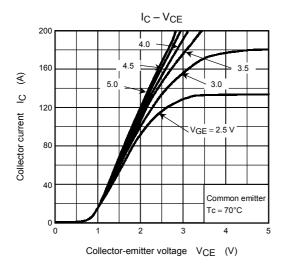
Note 2: Drive operation: Mount on glass epoxy board [1 inch $^2 \times$  1.5 t]

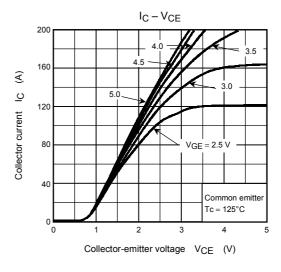
### Marking

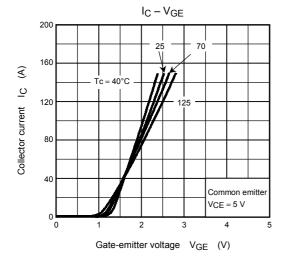


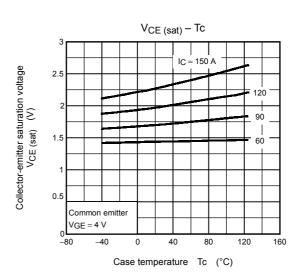


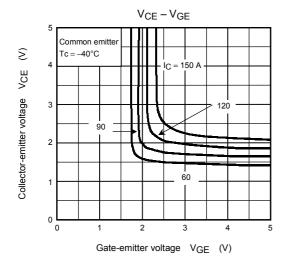


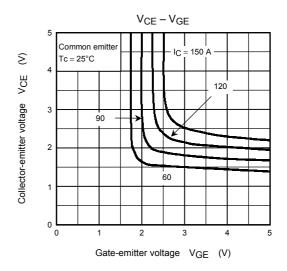


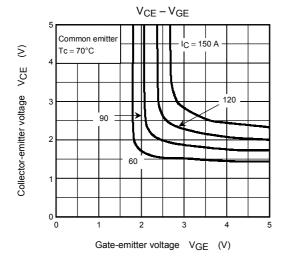


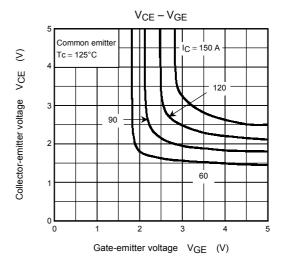


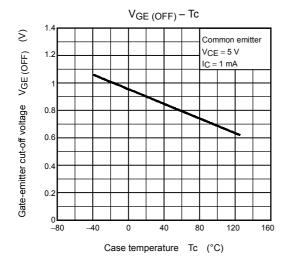


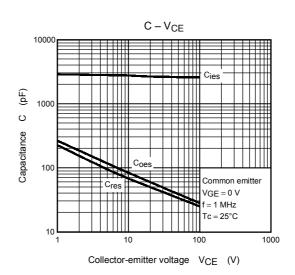




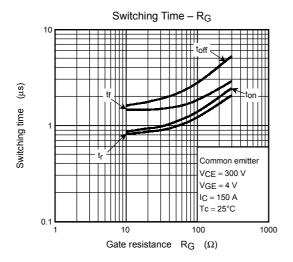


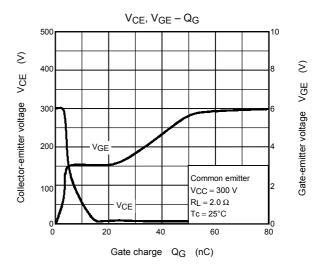


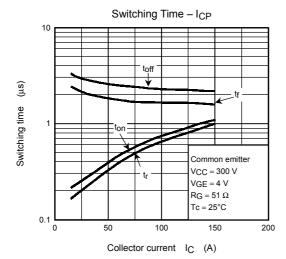


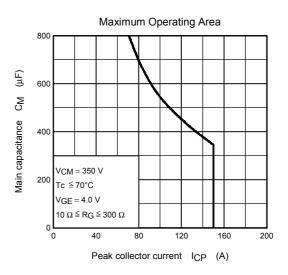


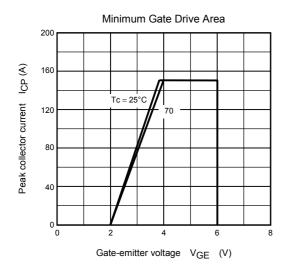
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