

GT5G131

Strobe Flash Applications

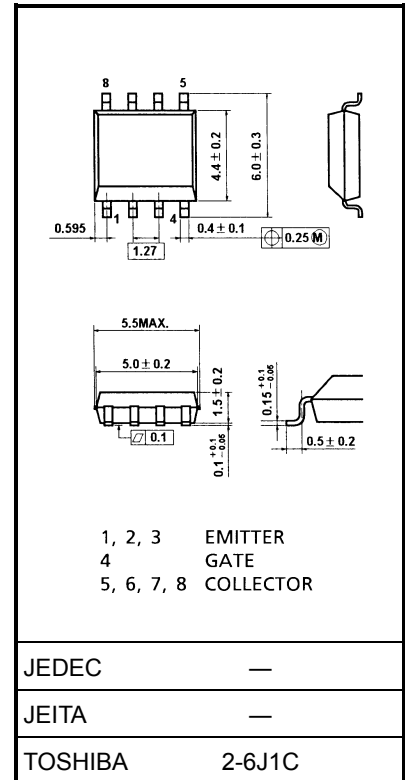
- 3-V gate drive voltage: $V_{GE} = 3.0 \text{ V (min)}$ (@ $I_C = 130 \text{ A}$)
- Supplied in compact and thin package requires only a small mounting area
- 5th generation (trench gate structure) IGBT
- Enhancement-mode
- Peak collector current: $I_C = 130 \text{ A (max)}$

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-emitter voltage	V_{CES}	400	V
Gate-emitter voltage	DC	V_{GES}	± 6
	Pulse	V_{GES}	± 8
Collector current	DC	I_C	5
	1 ms	I_{CP}	130
Collector power dissipation (Note 1)	P_C	1.1	W
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	$-55 \sim 150$	$^\circ\text{C}$

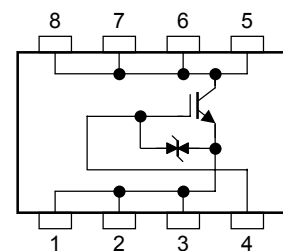
Note 1: Drive operation: Mount on glass epoxy board [$1 \text{ inch}^2 \times 1.5 \text{ t}$]

Unit: mm



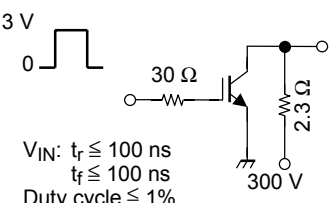
Weight: 0.080 g (typ.)

Equivalent Circuit



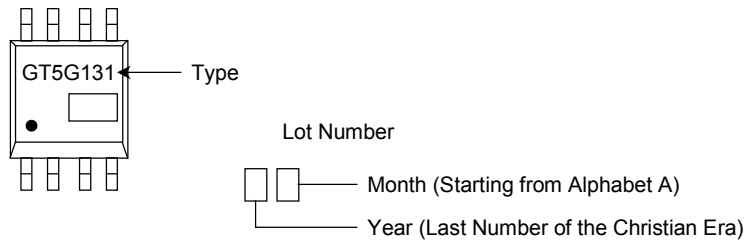
These devices are MOS type. Users should follow proper ESD handling procedures.
Operating condition of turn-off dv/dt should be lower than $400 \text{ V}/\mu\text{s}$.

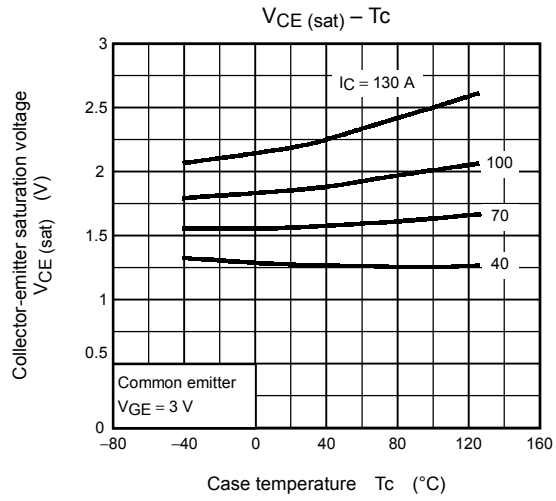
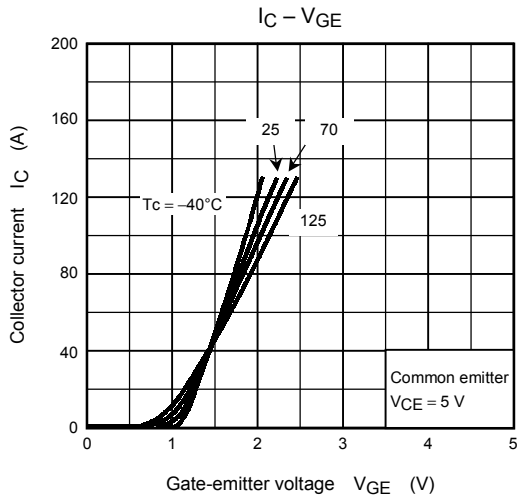
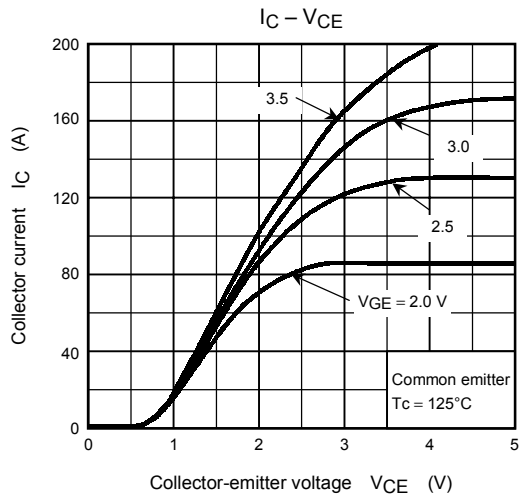
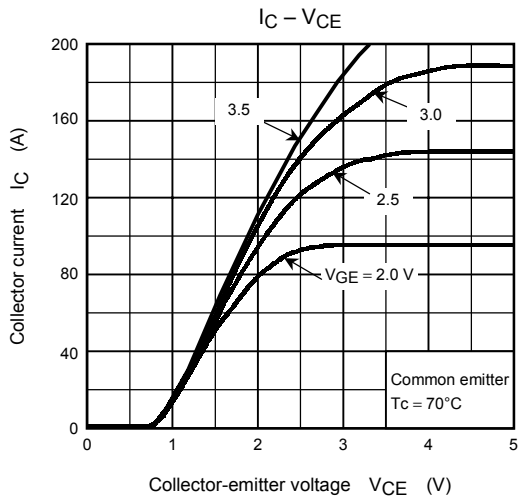
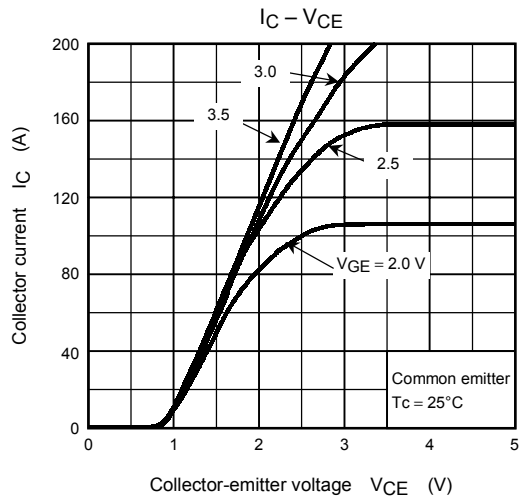
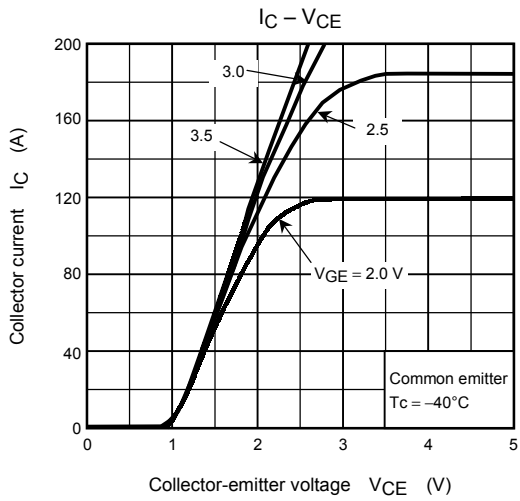
Electrical Characteristics (Ta = 25°C)

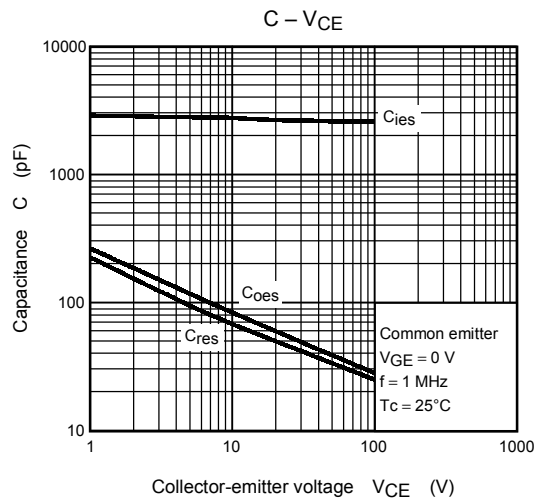
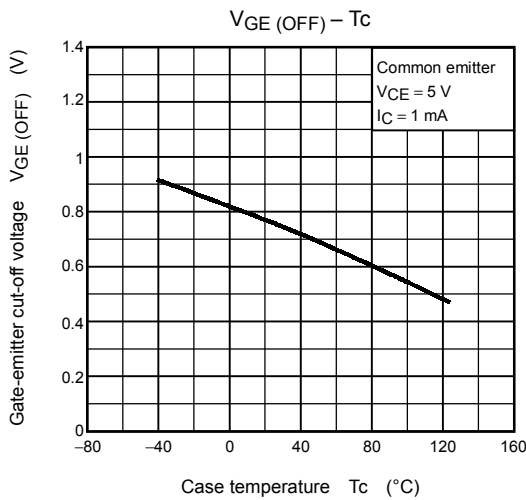
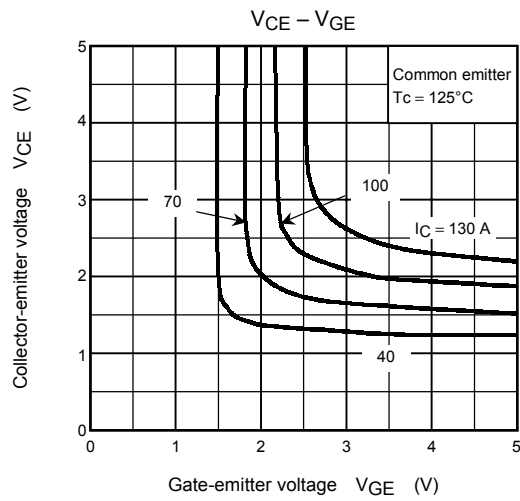
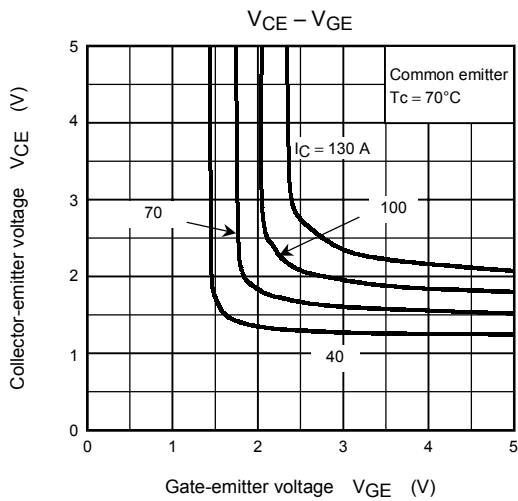
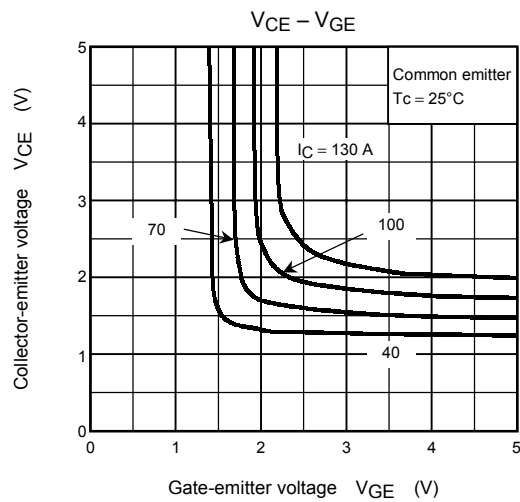
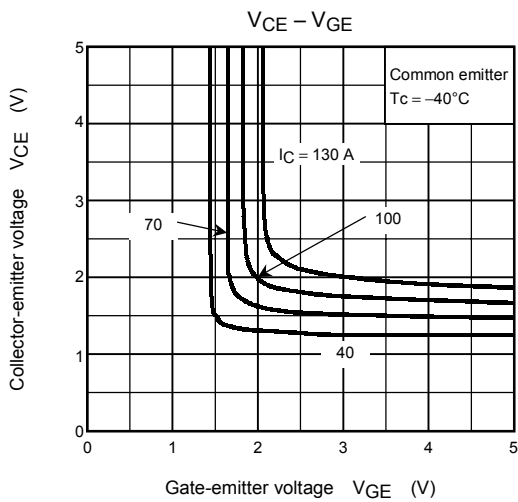
Characteristics		Symbol	Test Condition	Min	Typ.	Max	Unit
Gate leakage current		I_{GES}	$V_{GE} = \pm 6\text{ V}, V_{CE} = 0$	—	—	± 10	μA
Collector cut-off current		I_{CES}	$V_{CE} = 400\text{ V}, V_{GE} = 0$	—	—	10	μA
Gate-emitter cut-off voltage		$V_{GE(\text{OFF})}$	$I_C = 1\text{ mA}, V_{CE} = 5\text{ V}$	0.5	—	1.0	V
Collector-emitter saturation voltage		$V_{CE(\text{sat})}$	$I_C = 130\text{ A}, V_{GE} = 3\text{ V}$	—	2.2	7.0	V
Input capacitance		C_{ies}	$V_{CE} = 10\text{ V}, V_{GE} = 0, f = 1\text{ MHz}$	—	2800	—	pF
Switching time	Rise time	t_r	 $V_{IN}: t_r \leq 100\text{ ns}$ $t_f \leq 100\text{ ns}$ Duty cycle $\leq 1\%$	—	1.3	—	μs
	Turn-on time	t_{on}		—	1.4	—	
	Fall time	t_f		—	1.5	—	
	Turn-off time	t_{off}		—	1.8	—	
Thermal resistance (Note 2)		$R_{th(j-a)}$	—	—	—	114	$^{\circ}\text{C/W}$

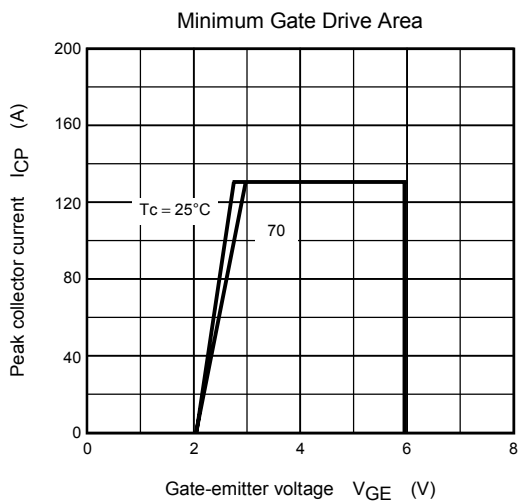
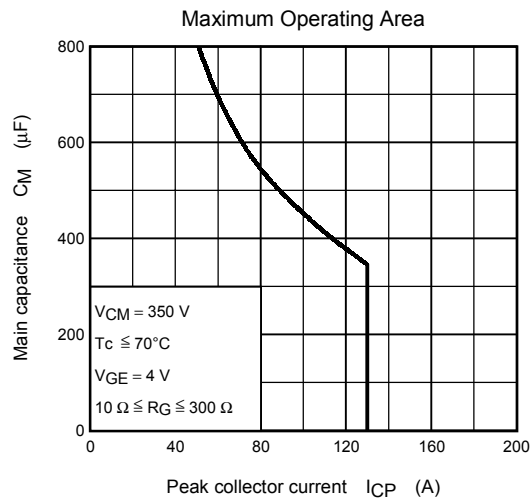
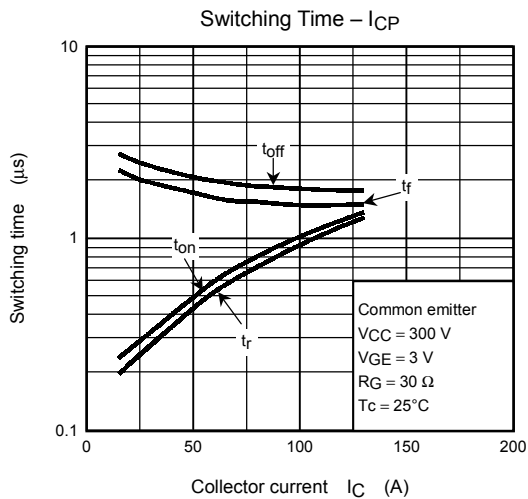
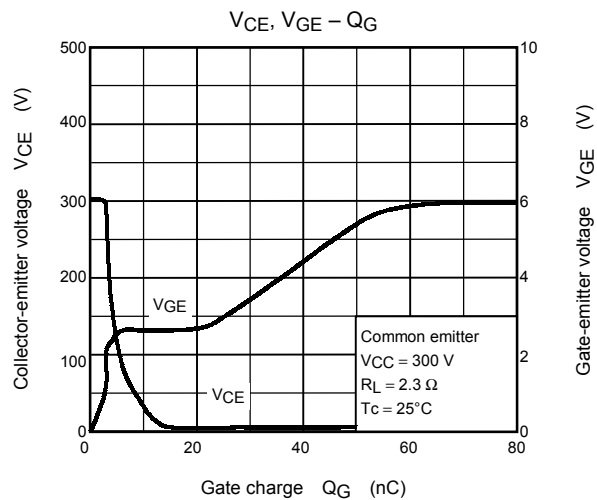
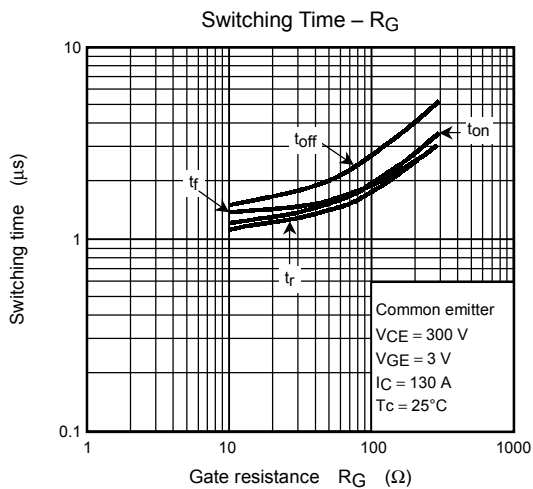
Note 2: Drive operation: Mount on glass epoxy board [1 inch² × 1.5 t]

Marking









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