

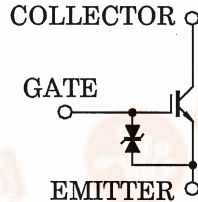
TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N CHANNEL IGBT

GT8G121

Unit: mm

STROBE FLASH APPLICATIONS

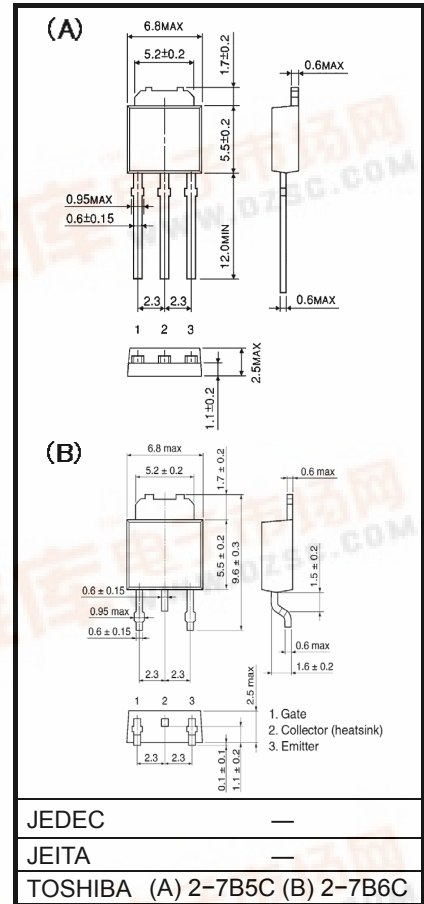
- 4th Generation (Trench Gate Structure)
- Enhancement-Mode
- Low Saturation Voltage
: $V_{CE(sat)} = 7\text{ V (Max.)}$ (@ $I_C = 150\text{ A}$)
- 4 V Gate Drive



ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Emitter Voltage	V_{CES}	400	V	
Gate-Emitter Voltage	DC	V_{GES}	± 6	V
	Pulse	V_{GES}	± 8	V
Collector Current	DC	I_C	8	A
	1 ms	I_{CP}	150	A
Collector Power Dissipation	Ta = 25°C	P_C	1.1	W
	Tc = 25°C	P_C	20	W
Junction Temperature	T_j	150	°C	
Storage Temperature Range	T_{stg}	-55~150	°C	

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



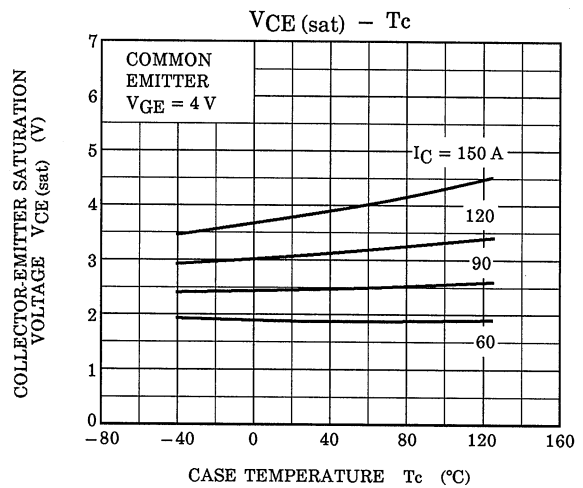
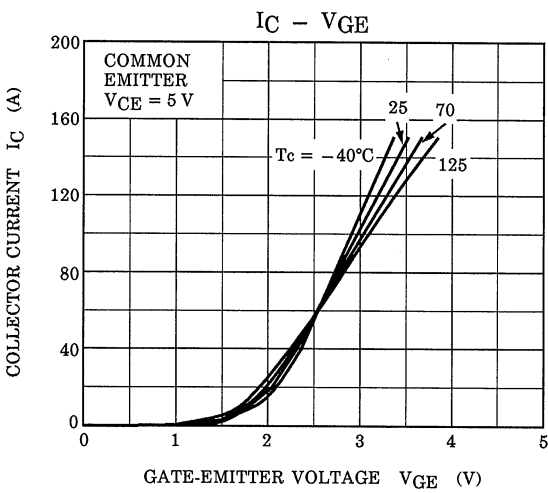
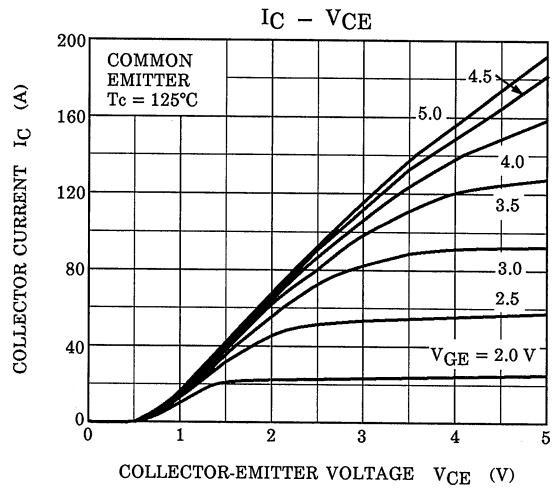
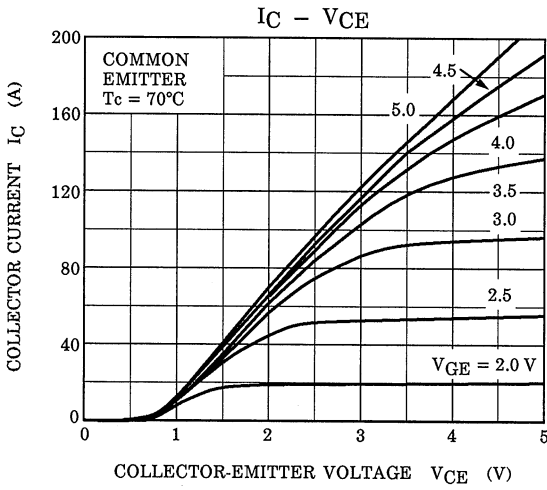
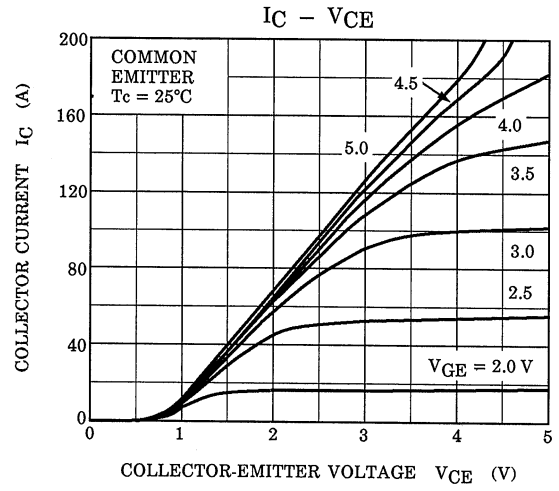
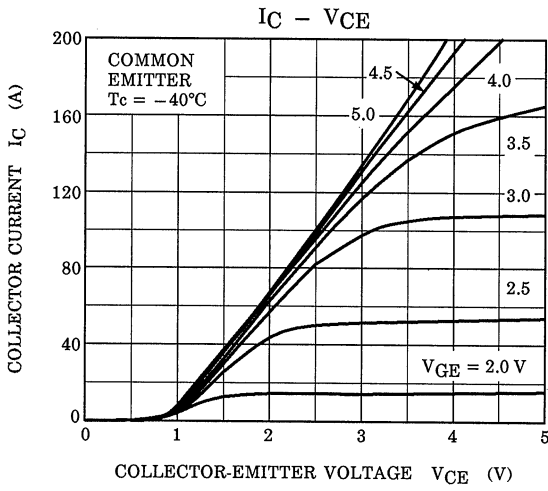
JEDEC	—
JEITA	—
TOSHIBA	(A) 2-7B5C (B) 2-7B6C

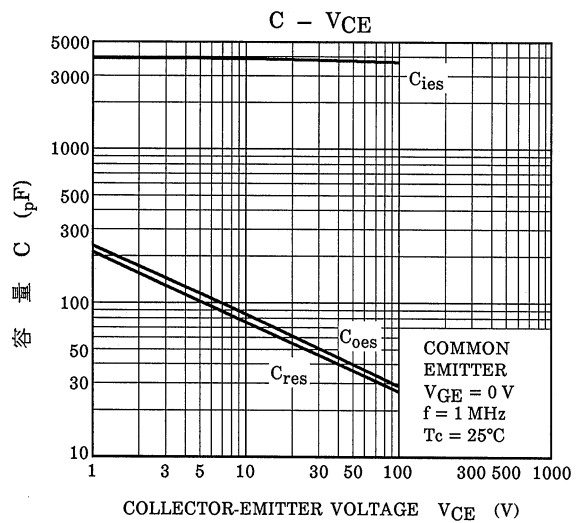
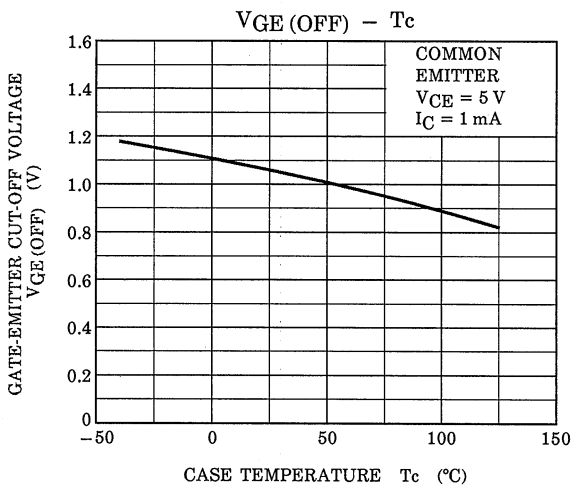
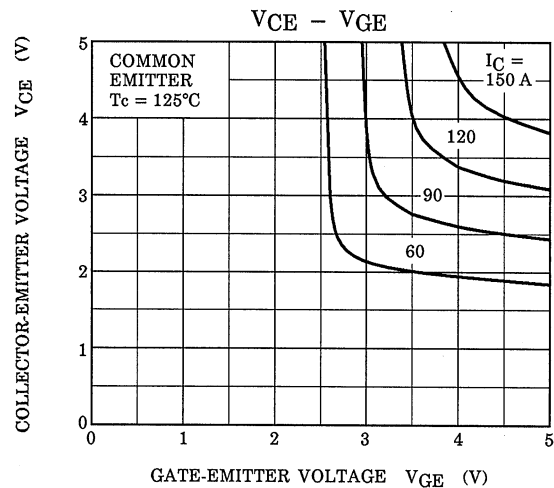
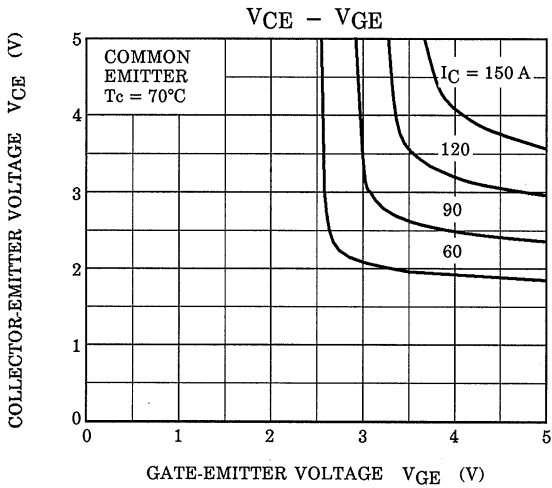
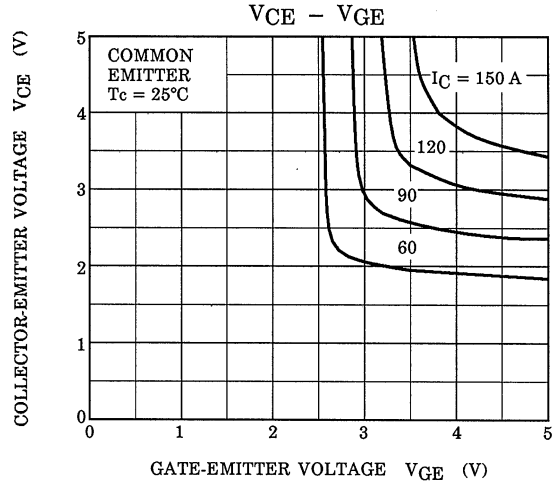
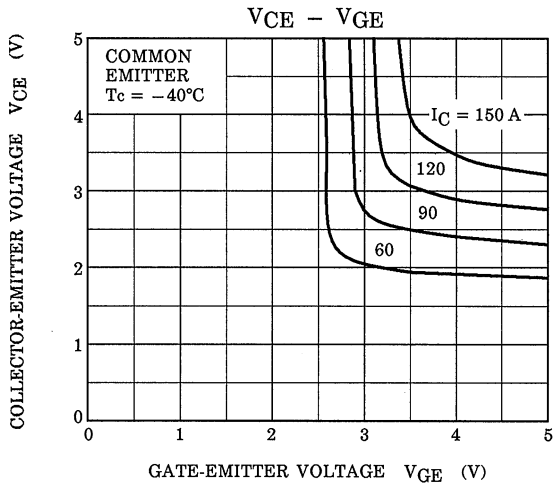
Weight: 0.36 g

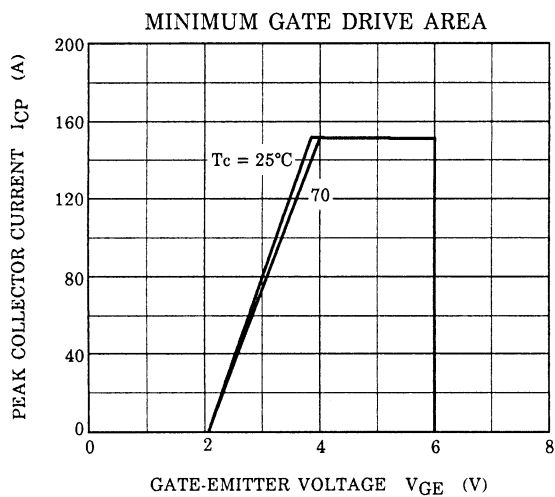
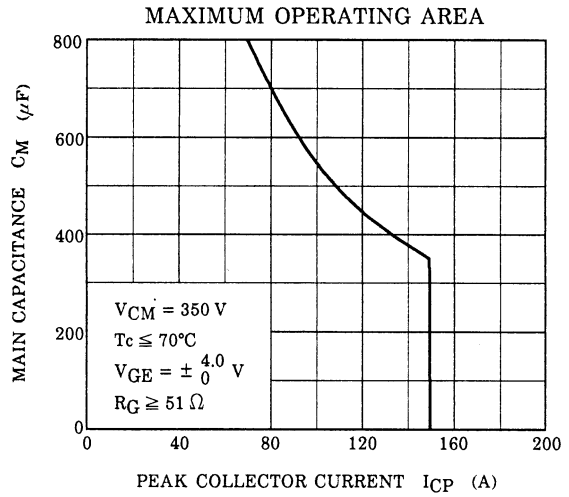
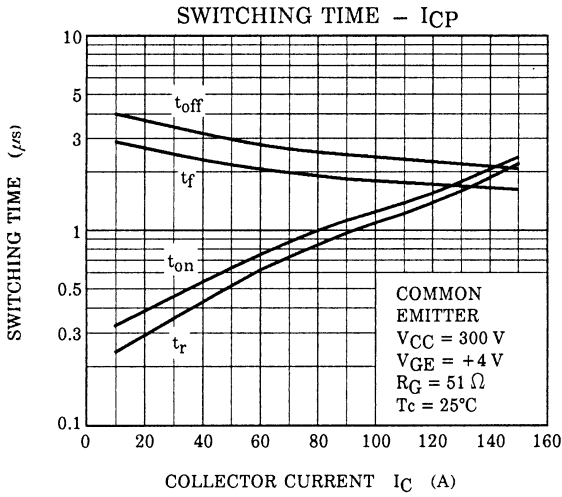
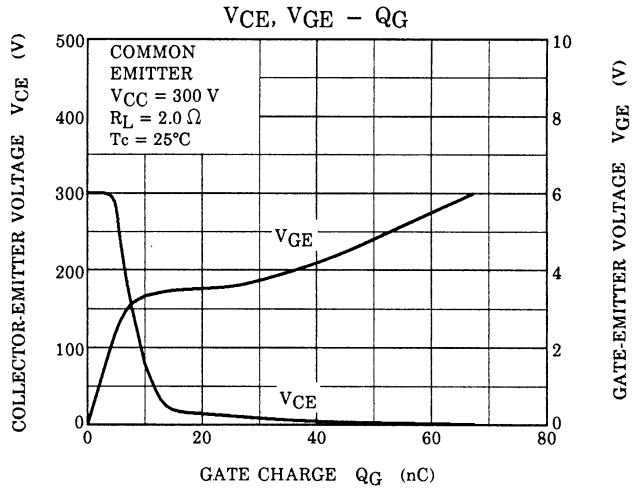
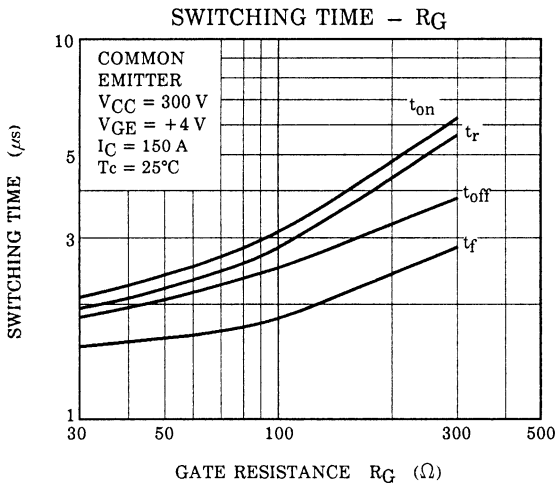
ELECTRICAL CHARACTERISTICS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT	
Gate Leakage Current	I_{GES}	$V_{GE} = 6\text{ V}, V_{CE} = 0$	—	—	10	μA	
Collector Cut-off Current	I_{CES}	$V_{CE} = 400\text{ V}, V_{GE} = 0$	—	—	10	μA	
Gate-Emitter Cut-off Voltage	$V_{GE(OFF)}$	$I_C = 1\text{ mA}, V_{CE} = 5\text{ V}$	0.8	—	1.5	V	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150\text{ A}, V_{GE} = 4\text{ V (Pulsed)}$	—	3.5	7	V	
Input Capacitance	C_{ies}	$V_{CE} = 10\text{ V}, V_{GE} = 0, f = 1\text{ MHz}$	—	3800	—	pF	
Switching Time	Rise Time		—	2.3	—	μs	
	Turn-on Time		t_{on}	—	2.5		—
	Fall Time		t_f	—	1.7		—
	Turn-off Time		t_{off}	—	2.1		—
Thermal Resistance	$R_{th(j-c)}$	—	—	—	6.25	°C/W	

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







RESTRICTIONS ON PRODUCT USE

20070701-EN

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