

TENTATIVE

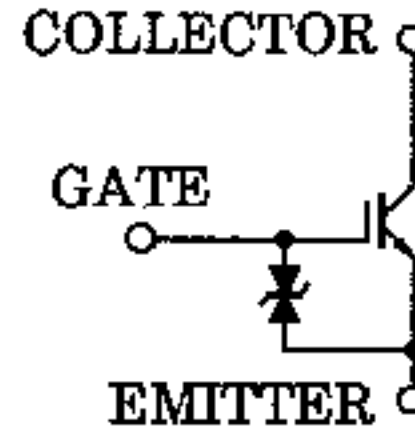
TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR
SILICON N CHANNEL MOS TYPE

GT8G121

STROBE FLASH APPLICATIONS

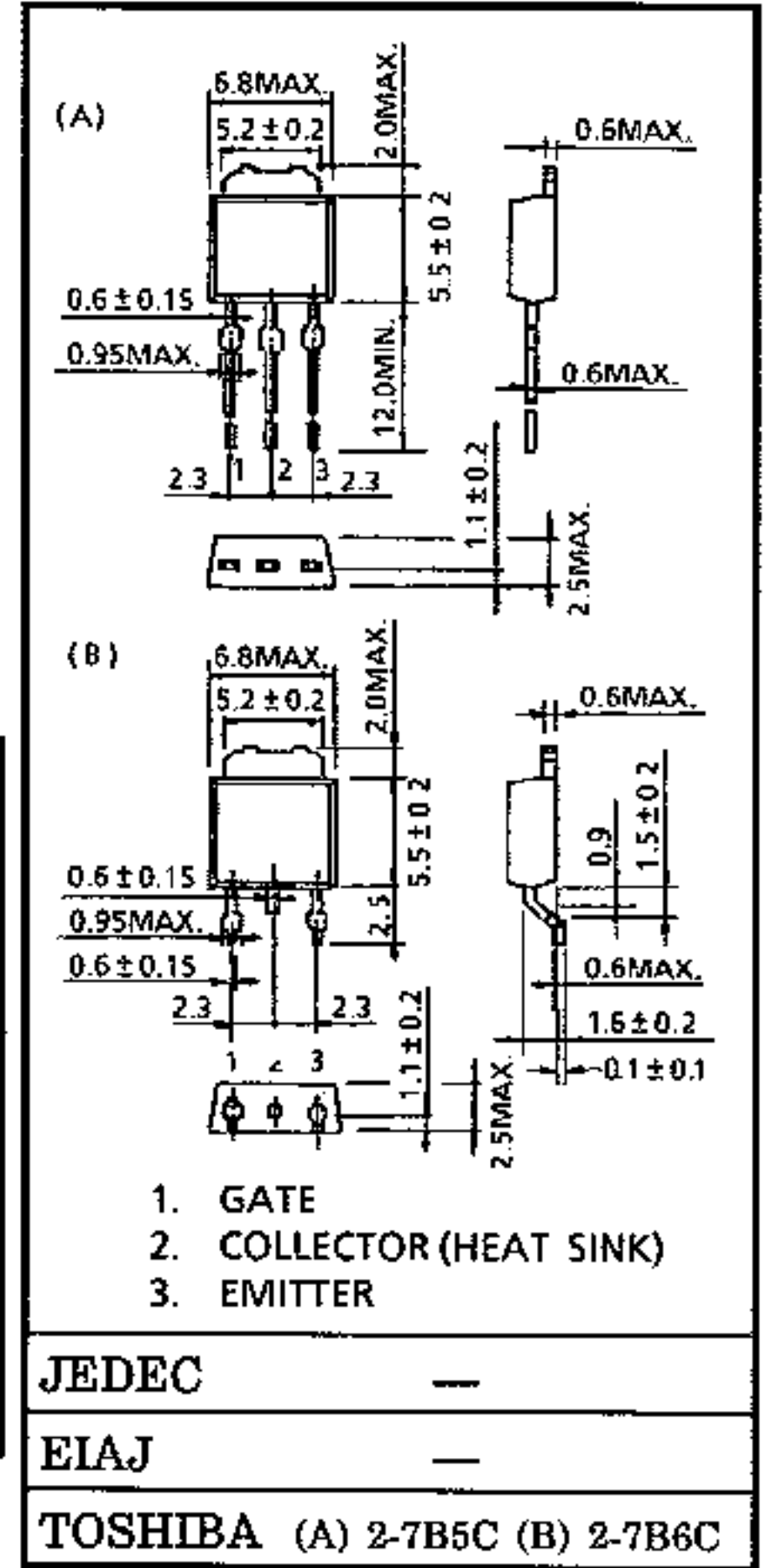
Unit in mm

- 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



MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Emitter Voltage	V_{CES}	400	V
Gate-Emitter Voltage	DC	± 6	V
	Pulse	± 8	V
Collector Current	DC	8	A
	1 ms	150	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	1.1	W
	$T_c = 25^\circ\text{C}$	20	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



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

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Weight : 0.36 g

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	—	1.45	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}	$V_{CE} = 10\text{ V}, V_{GE} = 0,$ $f = 1\text{ MHz}$	—	4100	—	pF
Switching Time	Rise Time	 $V_{IN} : t_r \leq 100\text{ ns}$ $t_f \leq 100\text{ ns}$ Duty cycle $\leq 1\%$	—	2.3	—	μs
	Turn-on Time		—	3.0	—	
	Fall Time		—	1.7	—	
	Turn-off Time		—	2.1	—	
Thermal Resistance	$R_{th(j-c)}$	—	—	—	6.25	$^\circ\text{C/W}$

These devices are MOS type. Users should follow proper ESD Handling Procedures.

Operating condition of turn-off dv/dt should be lower than $400\text{ V}/\mu\text{s}$.

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