

TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

2SC3405

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

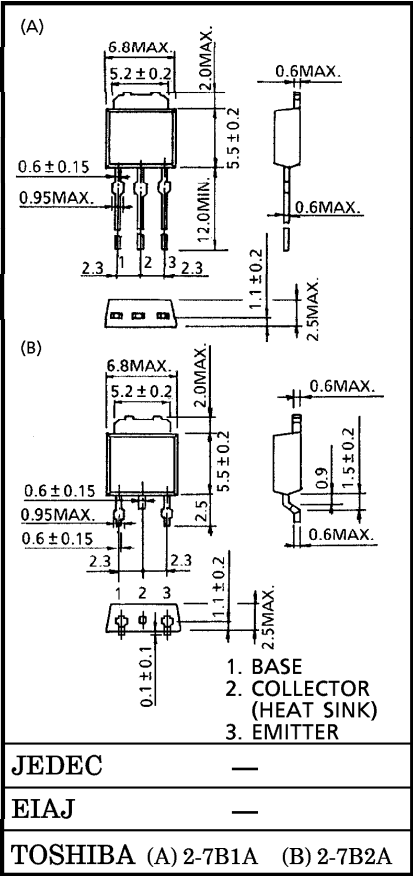
- Excellent Switching Times ($I_C = 0.3\text{ A}$)
: $t_r = 1.0\text{ }\mu\text{s}$ (Max.), $t_f = 1.0\text{ }\mu\text{s}$ (Max.)
- High Collector Breakdown Voltage : $V_{CEO} = 800\text{ V}$

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

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	900	V
Collector-Emitter Voltage		V_{CEO}	800	V
Emitter-Base Voltage		V_{EBO}	8	V
Collector Current	DC	I_C	0.8	A
	Pulse	I_{CP}	1.5	
Base Current		I_B	0.2	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.0	W
	$T_c = 25^\circ\text{C}$		20	
Junction Temperature		T_j	150	$^\circ\text{C}$
Storage Temperature Range		T_{stg}	$-55\sim 150$	$^\circ\text{C}$

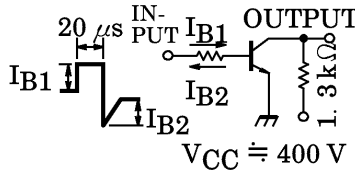
INDUSTRIAL APPLICATIONS

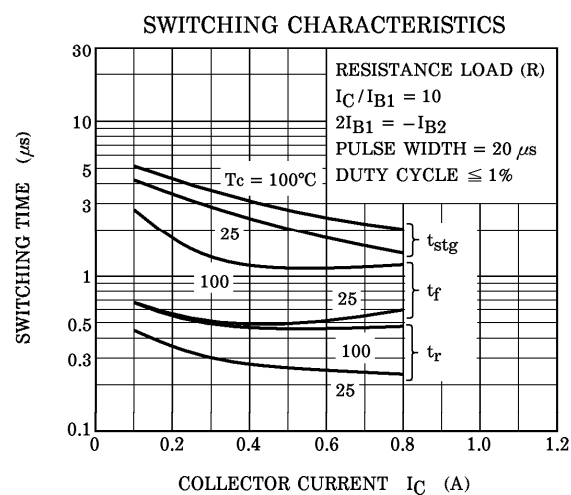
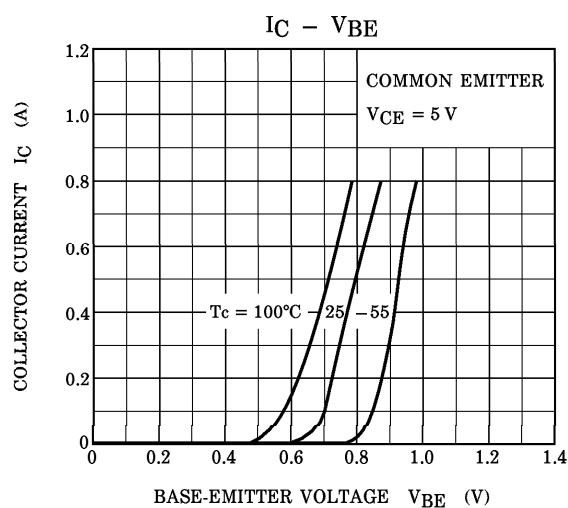
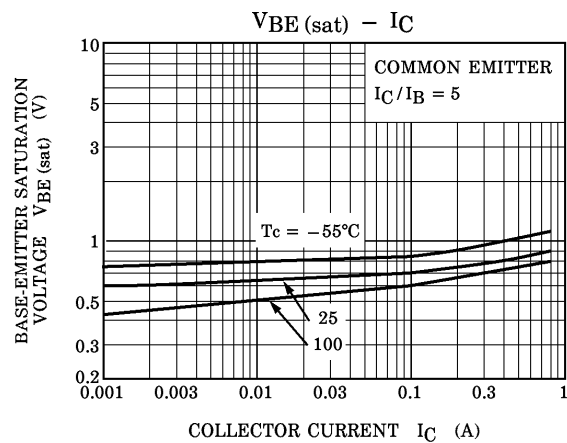
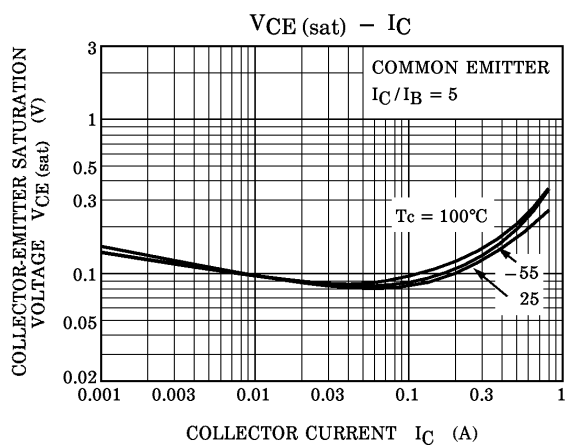
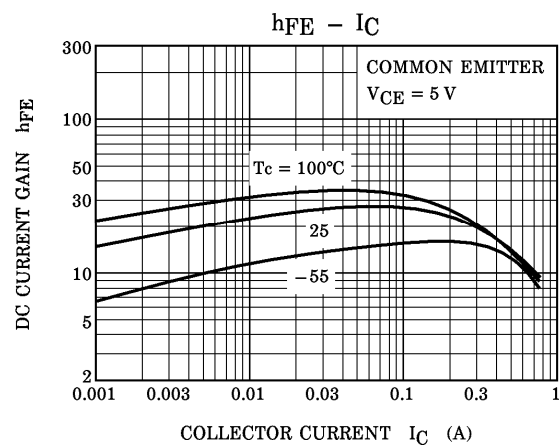
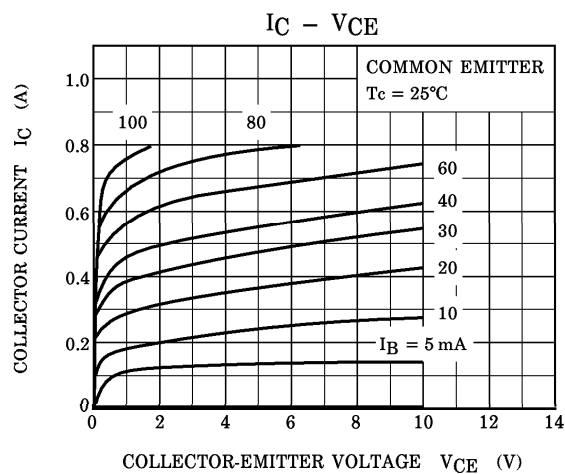
Unit in mm

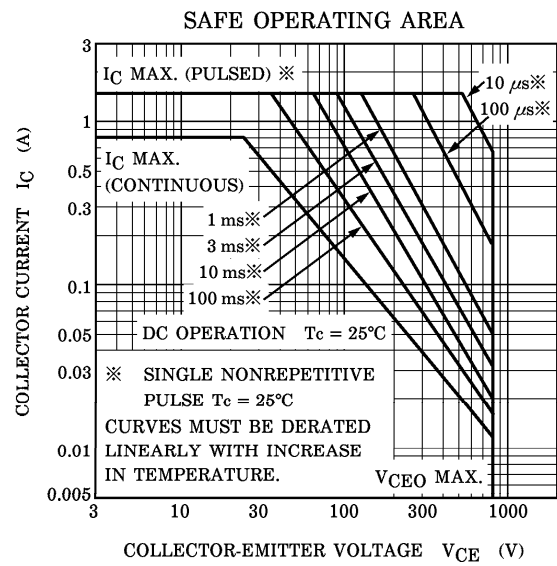
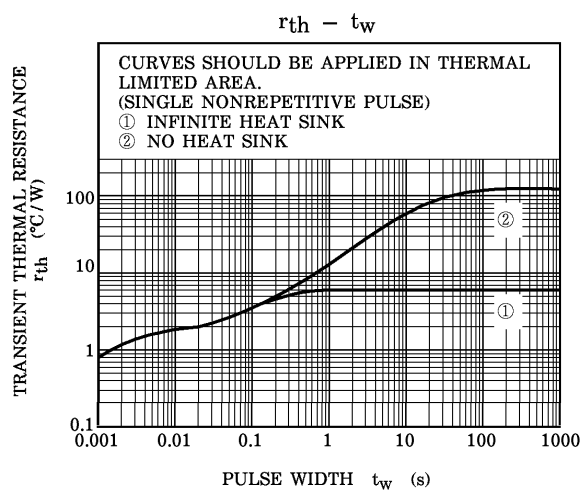


Weight : 0.36 g

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{\text{CB}} = 800 \text{ V}, I_{\text{E}} = 0$	—	—	100	μA
Emitter Cut-off Current		I_{EBO}	$V_{\text{EB}} = 8 \text{ V}, I_{\text{C}} = 0$	—	—	1	mA
Collector-Base Breakdown Voltage		$V_{(\text{BR}) \text{ CBO}}$	$I_{\text{C}} = 1 \text{ mA}, I_{\text{E}} = 0$	900	—	—	V
Collector-Emitter Breakdown Voltage		$V_{(\text{BR}) \text{ CEO}}$	$I_{\text{C}} = 10 \text{ mA}, I_{\text{B}} = 0$	800	—	—	V
DC Current Gain		$h_{\text{FE}} (1)$	$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 1 \text{ mA}$	6	—	—	
		$h_{\text{FE}} (2)$	$V_{\text{CE}} = 5 \text{ V}, I_{\text{C}} = 0.3 \text{ A}$	10	—	—	
Collector-Emitter Saturation Voltage		$V_{\text{CE}} (\text{sat})$	$I_{\text{C}} = 0.3 \text{ A}, I_{\text{B}} = 0.06 \text{ A}$	—	—	0.5	V
Base-Emitter Saturation Voltage		$V_{\text{BE}} (\text{sat})$	$I_{\text{C}} = 0.3 \text{ A}, I_{\text{B}} = 0.06 \text{ A}$	—	—	1.2	V
Switching Time	Rise Time	t_{r}	 $I_{\text{B1}} = -I_{\text{B2}} = 0.06 \text{ A}$, DUTY CYCLE $\leq 1\%$	—	—	1.0	μs
	Storage Time	t_{stg}		—	—	4.0	
	Fall Time	t_{f}		—	—	1.0	





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