TOSHIBA TRANSISTOR SILICON NPN TRIPLE DIFFUSED TYPE

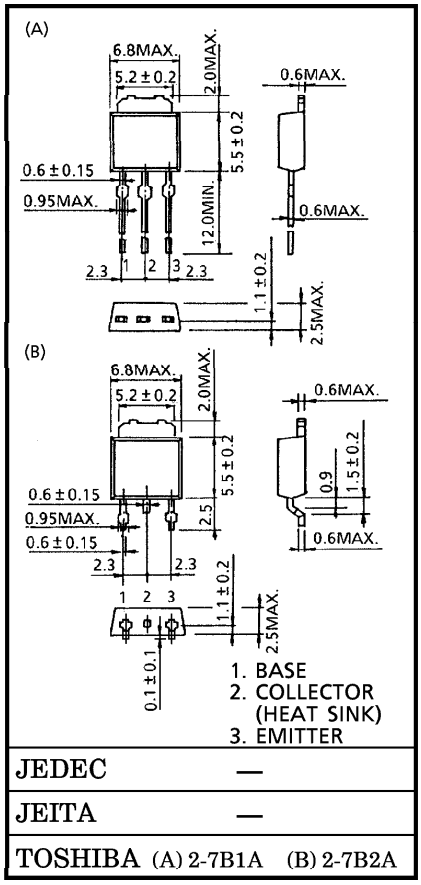
2SC3405

SWITCHING REGULATOR AND HIGH VOLTAGE SWITCHING APPLICATIONS

HIGH SPEED DC-DC CONVERTER APPLICATIONS

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

Unit in mm



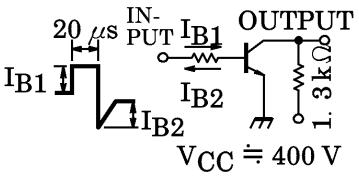
JEDEC	—
JEITA	—
TOSHIBA	(A) 2-7B1A (B) 2-7B2A

Weight : 0.36 g (Typ.)

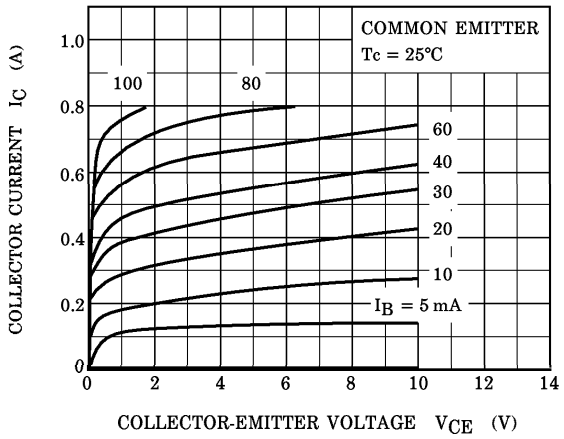
MAXIMUM RATINGS (Tc = 25°C)

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	Ta = 25°C	P_C	1.0	W
	Tc = 25°C		20	
Junction Temperature		T_j	150	°C
Storage Temperature Range		T_{stg}	−55~150	°C

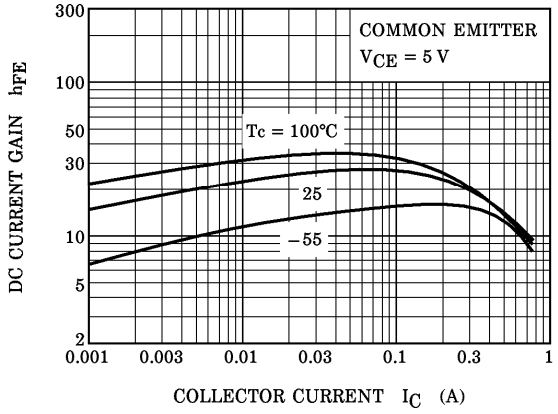
ELECTRICAL CHARACTERISTICS (Tc = 25°C)

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

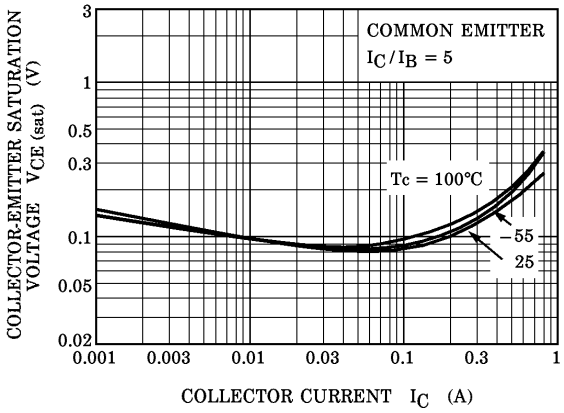
I_C – V_{CE}



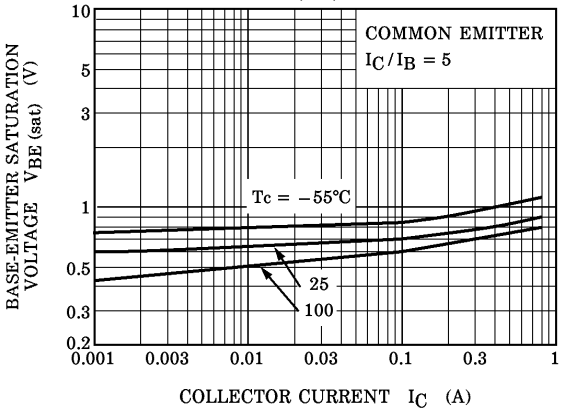
h_{FE} – I_C



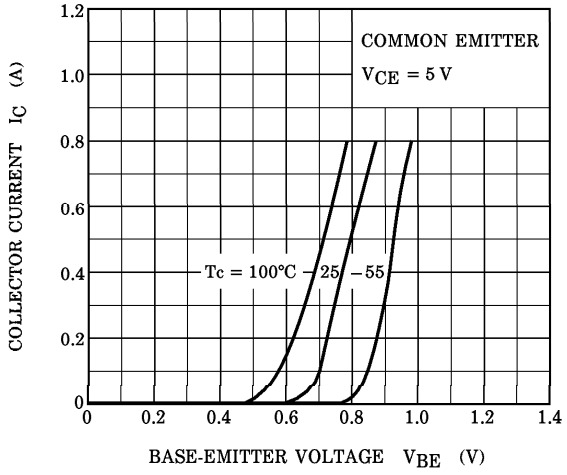
$V_{CE\,(sat)}$ – I_C



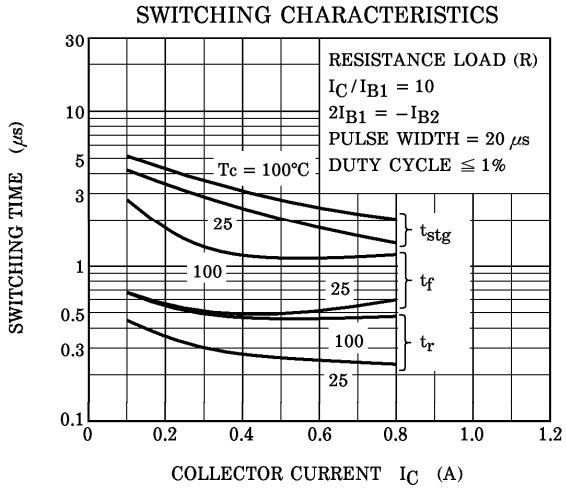
$V_{BE\,(sat)}$ – I_C



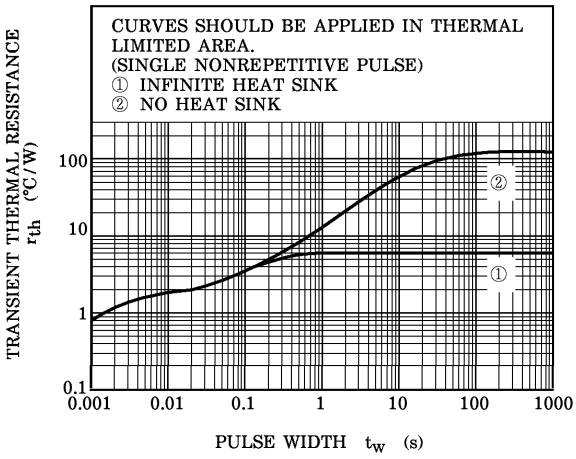
I_C – V_{BE}



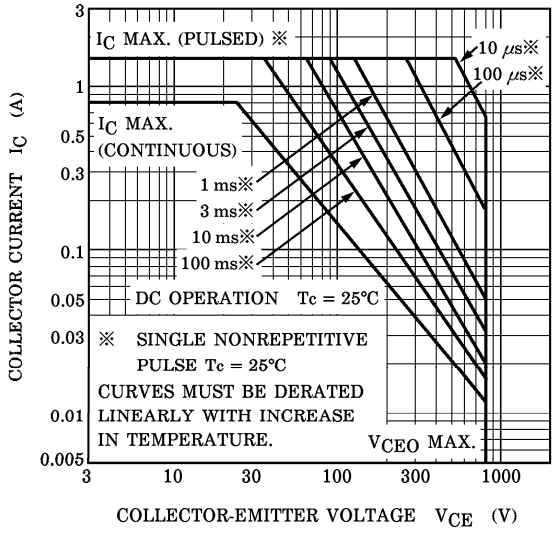
SWITCHING CHARACTERISTICS



$r_{th} - t_w$



SAFE OPERATING AREA



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