

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

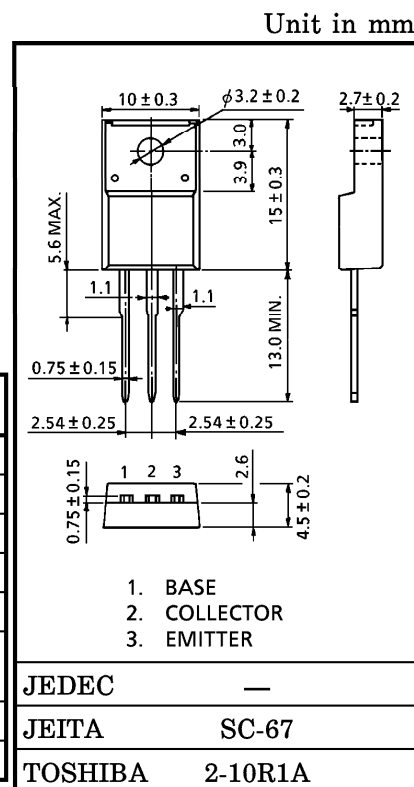
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HIGH CURRENT SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.4V$ (Max.) (at $I_C = -6A$)
- High Speed Switching Time : $t_{stg} = 0.6\mu s$ (Typ.)
- High Emitter-Base Breakdown Voltage
: $V_{(BR) EBO} = -14V$ (Min.)

MAXIMUM RATINGS ($T_c = 25^\circ C$)

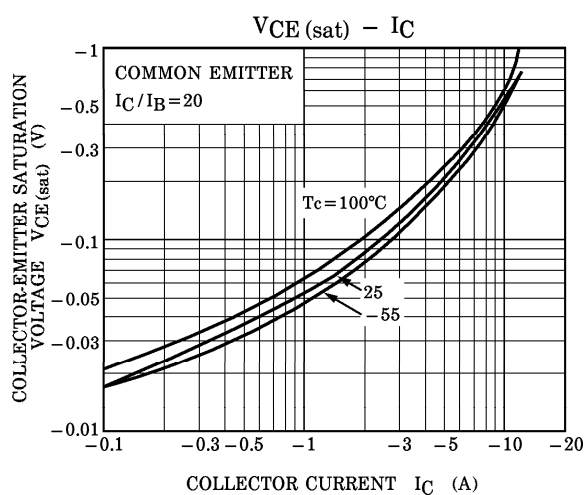
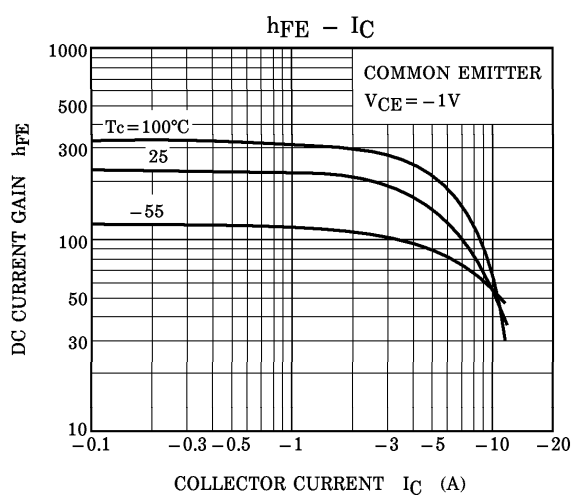
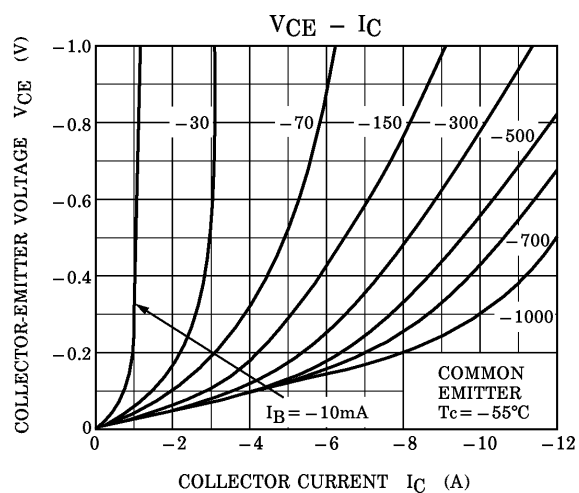
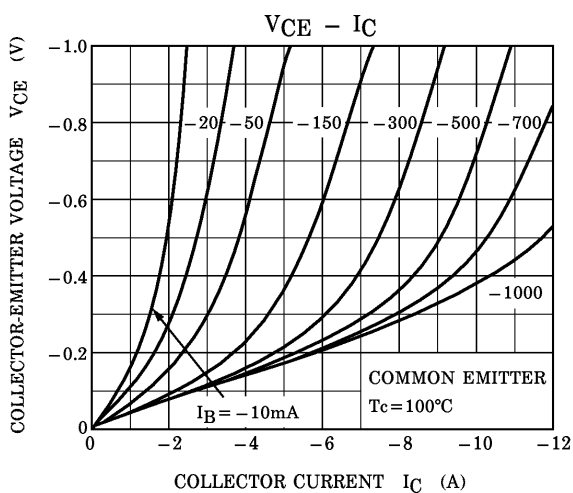
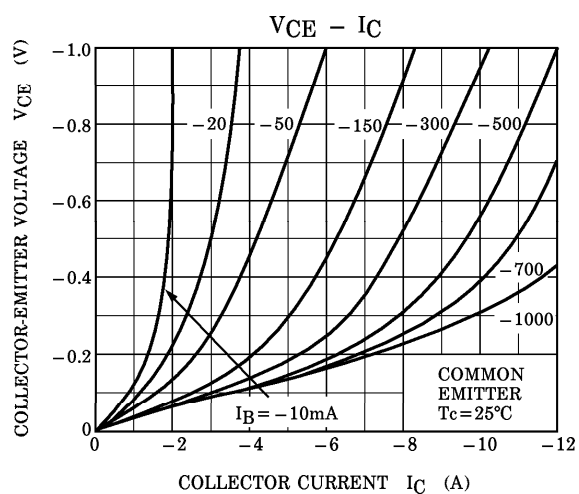
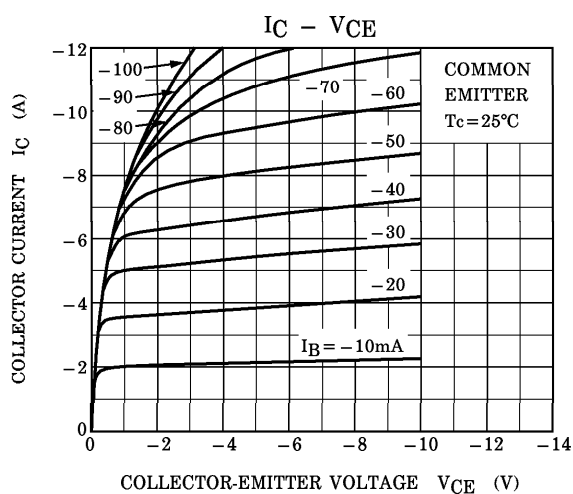
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-80	V
Collector-Emitter Voltage	V_{CEO}	-80	V
Emitter-Base Voltage	V_{EBO}	-14	V
Collector Current	I_C	-12	A
Base Current	I_B	-1.2	A
Collector Power Dissipation ($T_c = 25^\circ C$)	P_C	30	W
Junction Temperature	T_j	150	$^\circ C$
Storage Temperature Range	T_{stg}	-55~150	$^\circ C$

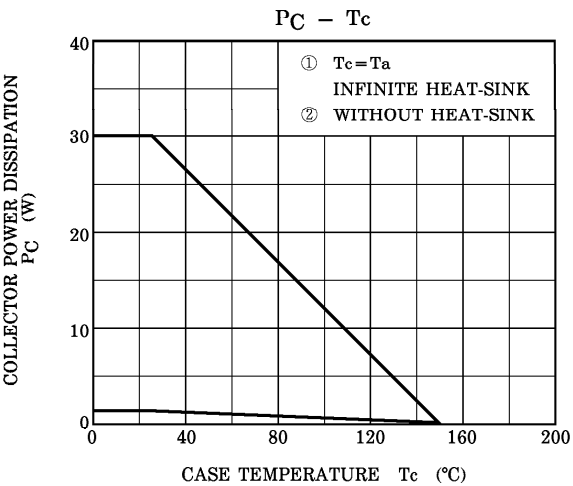
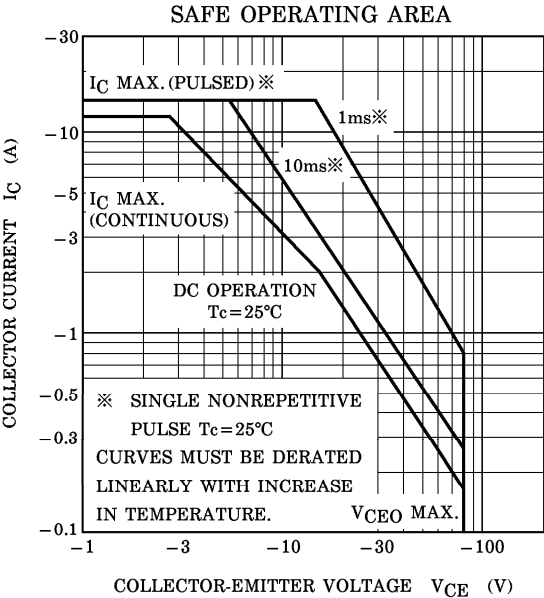
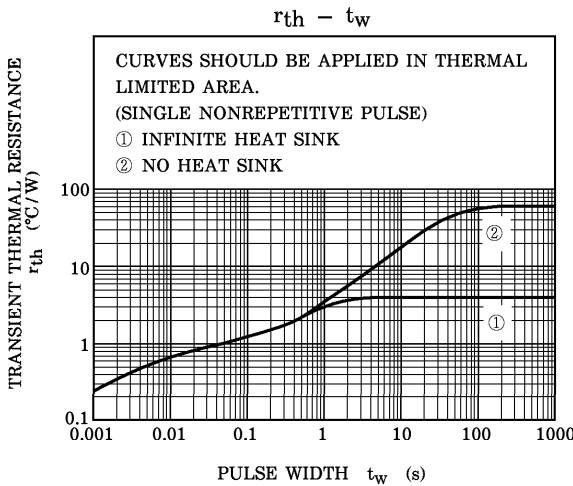
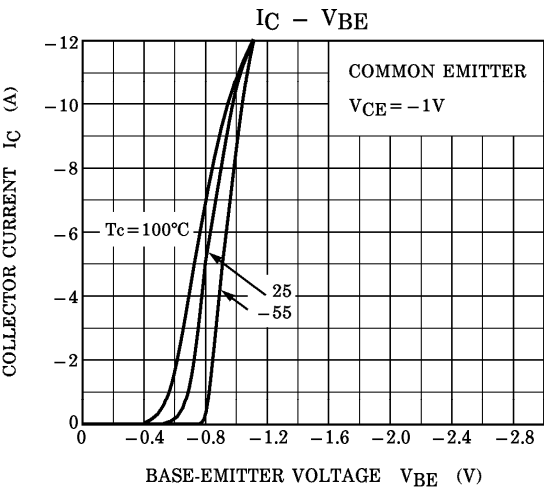
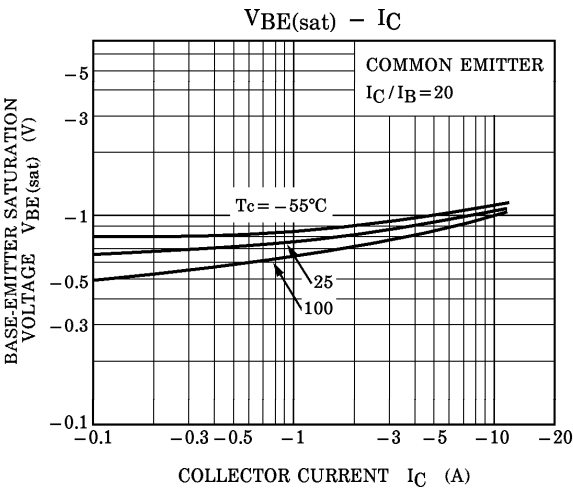


Weight : 1.7g (Typ.)

ELECTRICAL CHARACTERISTICS ($T_c = 25^\circ C$)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	$V_{CB} = -80V, I_E = 0$	—	—	-10	μA
Emitter Cut-off Current		I_{EBO}	$V_{EB} = -14V, I_C = 0$	—	—	-10	μA
Collector-Emitter Breakdown Voltage		$V_{(BR) CEO}$	$I_C = -50mA, I_B = 0$	-80	—	—	V
DC Current Gain		$h_{FE(1)}$	$V_{CE} = -1V, I_C = -1A$	100	—	320	
		$h_{FE(2)}$	$V_{CE} = -1V, I_C = -6A$	40	—	—	
Saturation Voltage	Collector-Emitter	$V_{CE(sat)}$	$I_C = -6A, I_B = -0.3A$	—	-0.2	-0.4	V
	Base-Emitter	$V_{BE(sat)}$	$I_C = -6A, I_B = -0.3A$	—	-0.9	-1.2	
Transition Frequency		f_T	$V_{CE} = -5V, I_C = -1A$	—	50	—	MHz
Collector Output Capacitance		C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	—	300	—	pF
Switching Time	Turn-on Time	t_{on}	20μs INPUT I_{B2} OUTPUT I_{B1} $V_{CC} = -30V$ DUTY CYCLE $\leq 1\%$	—	0.2	—	μs
	Storage Time	t_{stg}		—	0.6	—	
	Fall Time	t_f		—	0.1	—	





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