

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE

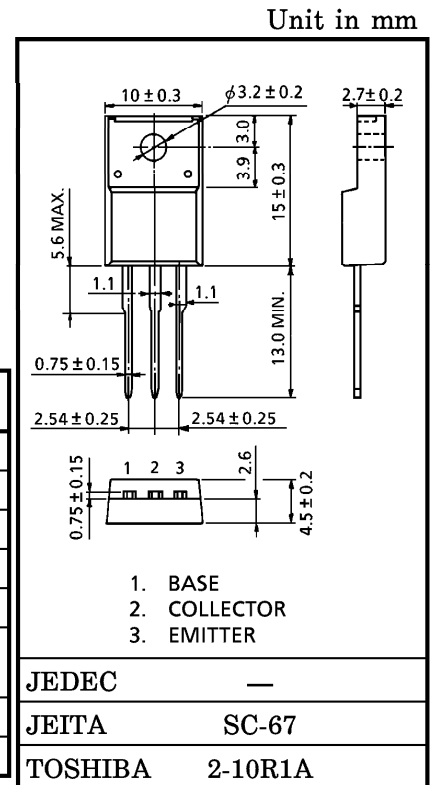
# 2SA1771

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 ( $T_c = 25^\circ C$ )

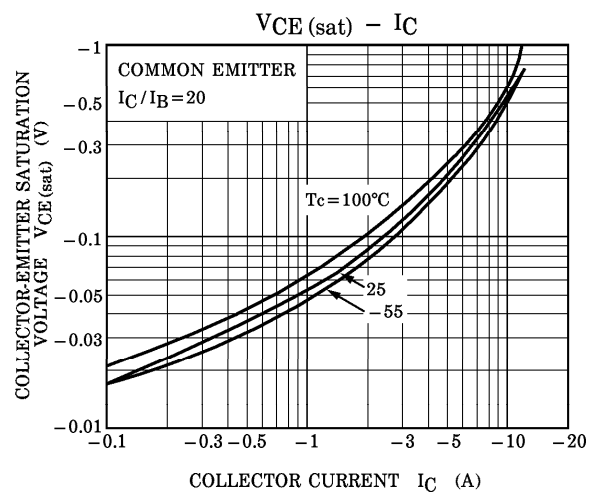
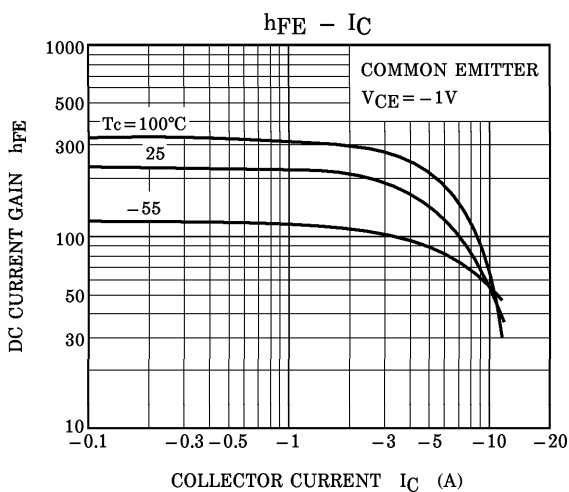
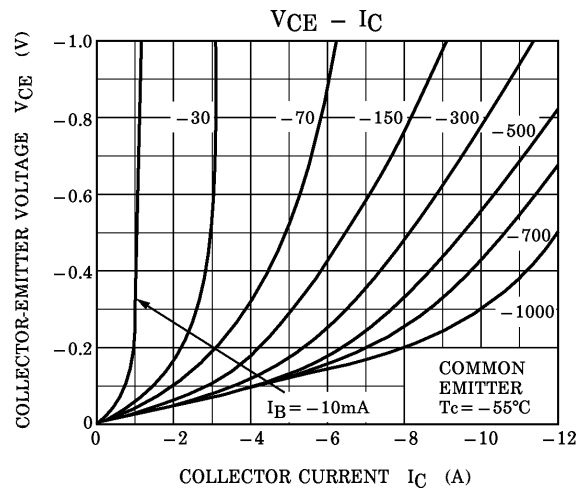
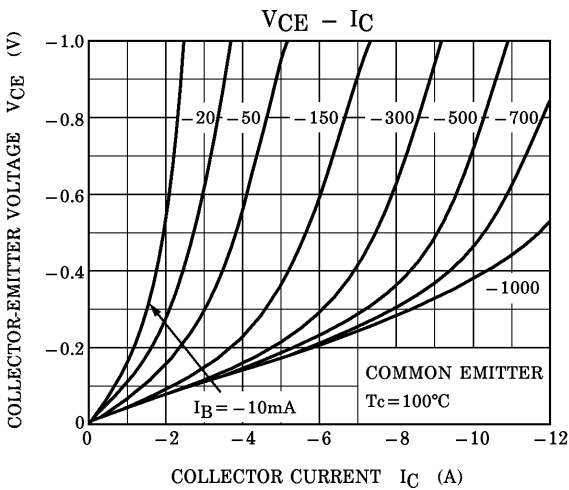
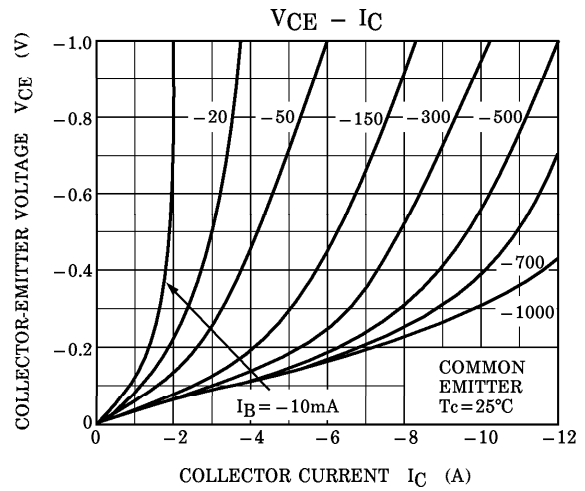
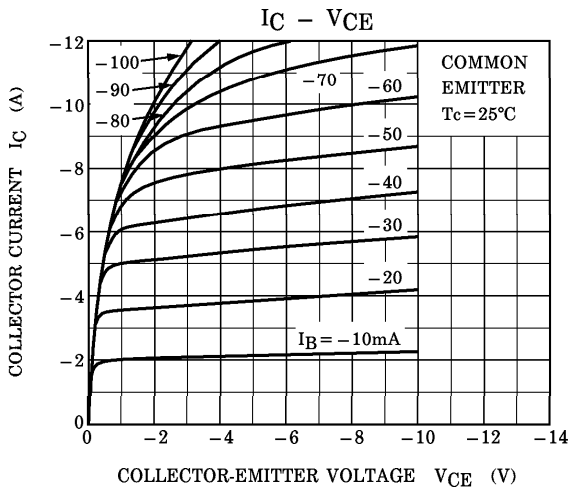
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CB0}$	-80	V
Collector-Emitter Voltage	$V_{CE0}$	-80	V
Emitter-Base Voltage	$V_{EBO}$	-14	V
Collector Current	$I_C$	-12	A
Base Current	$I_B$	-1.2	A
Collector Power Dissipation ( $T_c = 25^\circ C$ )	$P_C$	30	W
Junction Temperature	$T_j$	150	$^\circ C$
Storage Temperature Range	$T_{stg}$	-55~150	$^\circ C$

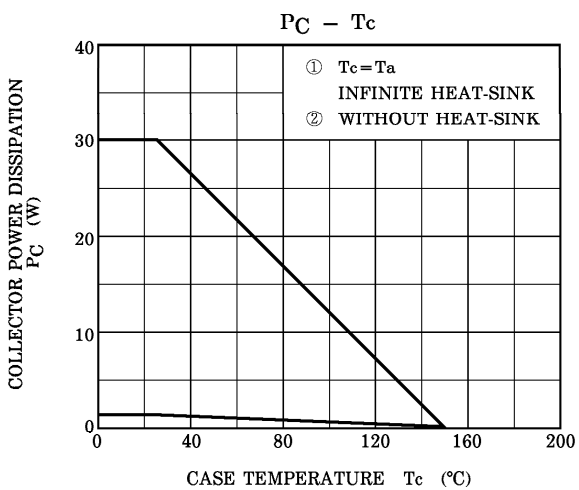
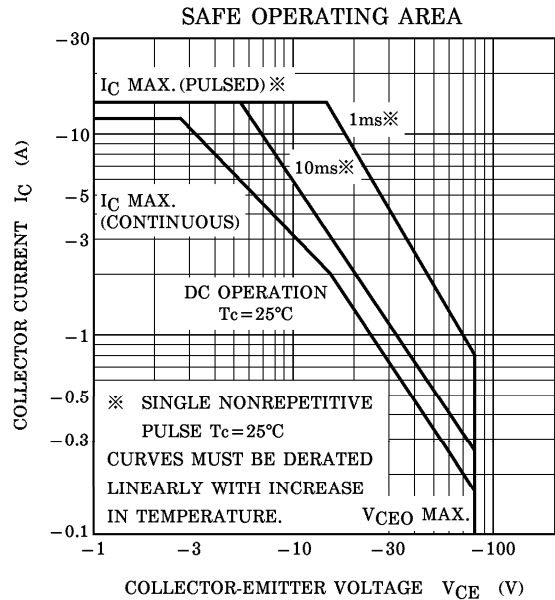
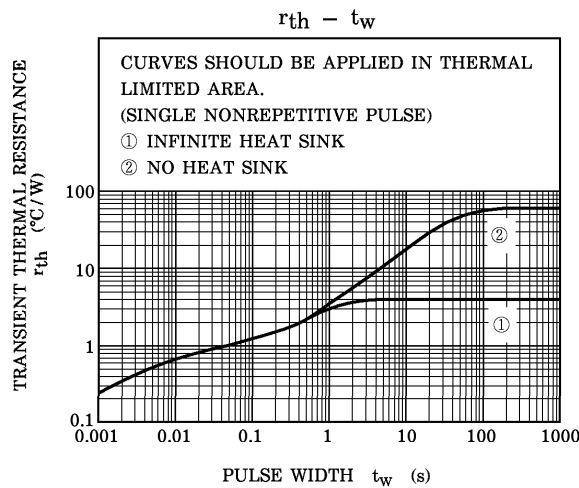
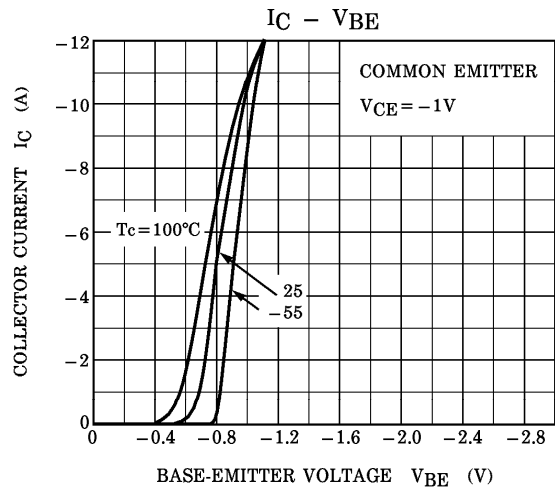
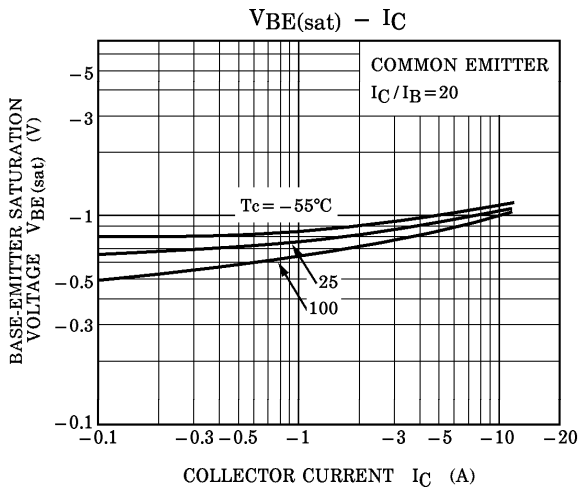


Weight : 1.7g (Typ.)

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

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		$I_{CB0}$	$V_{CB} = -80V, I_E = 0$	—	—	-10	$\mu A$
Emitter Cut-off Current		$I_{EBO}$	$V_{EB} = -14V, I_C = 0$	—	—	-10	$\mu A$
Collector-Emitter Breakdown Voltage		$V_{(BR)CE0}$	$I_C = -50mA, I_B = 0$	-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	$t_{on}$		—	0.2	—	$\mu s$
	Storage Time	$t_{stg}$		—	0.6	—	
	Fall Time	$t_f$		—	—	0.1	





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