

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1451A

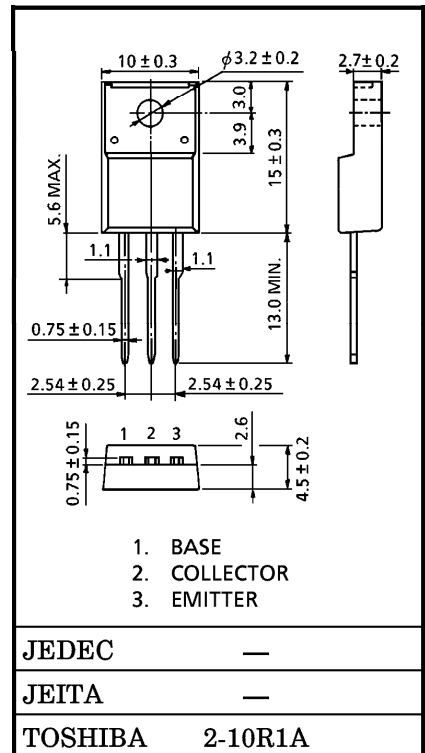
HIGH SPEED, HIGH CURRENT SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.4V$ (Max.) (at $I_C = -6A$)
- High Speed Switching Time : $t_{stg} = 1.0\mu s$ (Typ.)
- Complementary to 2SC3709A

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CE0}	-50	V
Emitter-Base Voltage	V_{EB0}	-6	V
Collector Current	I_C	-12	A
Base Current	I_B	-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	$^\circ C$

Unit in mm

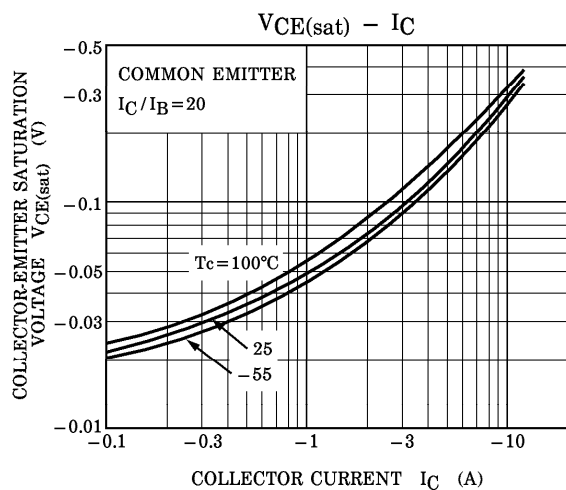
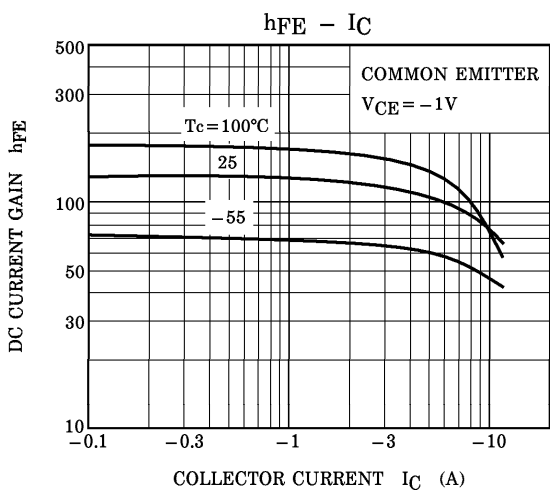
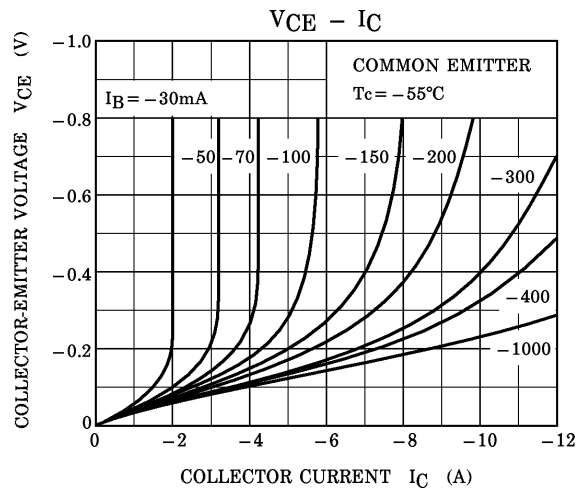
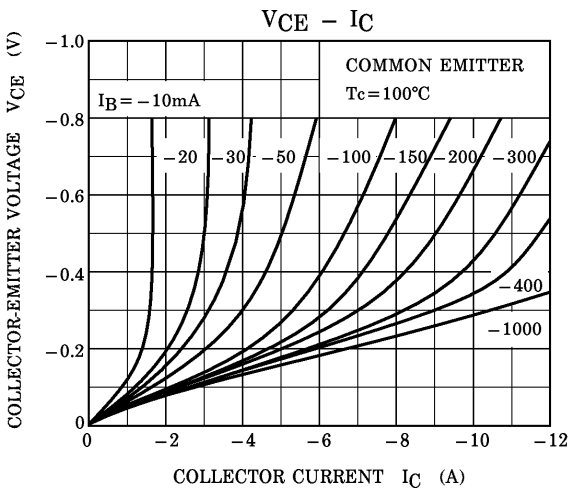
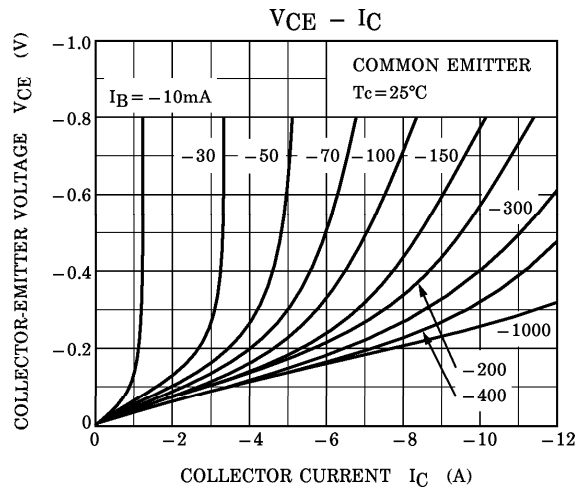
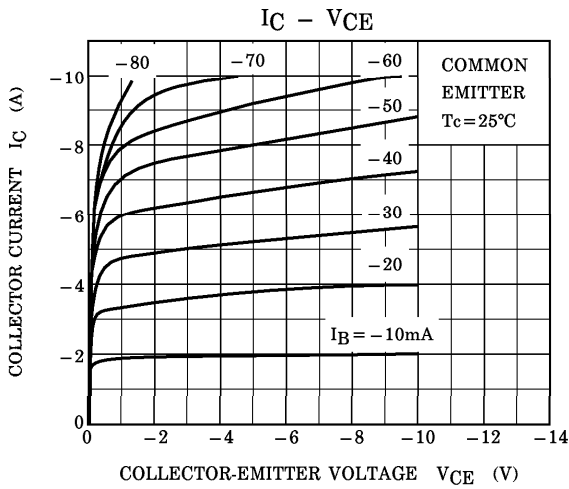


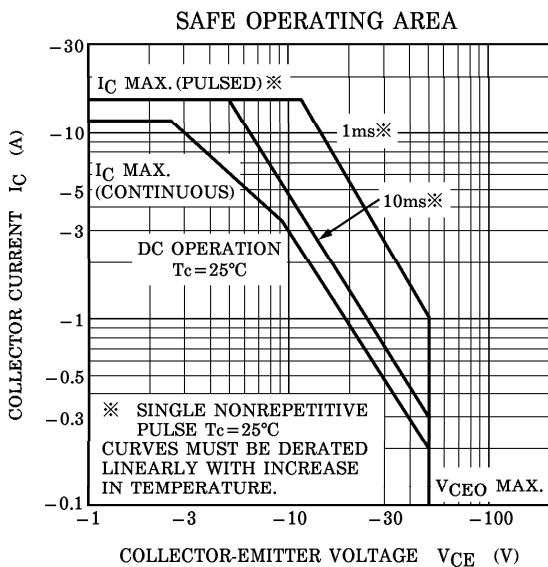
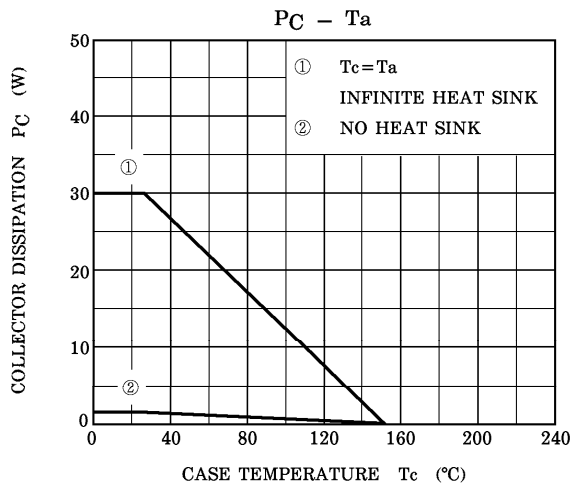
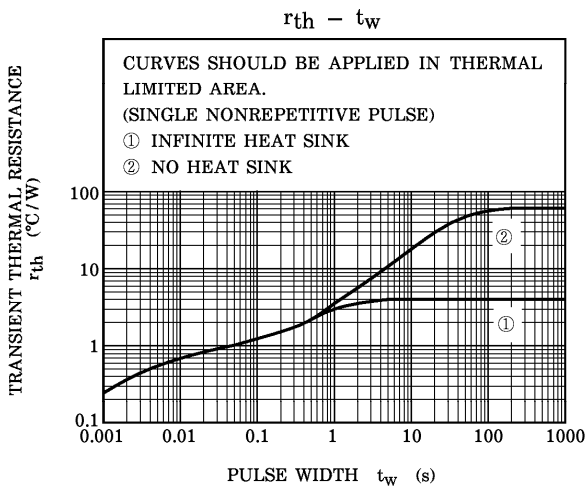
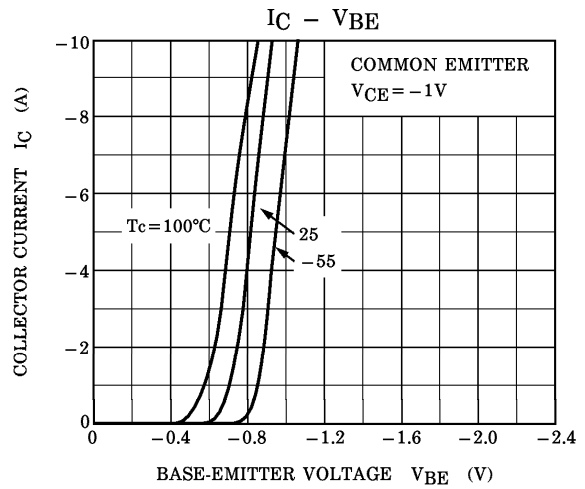
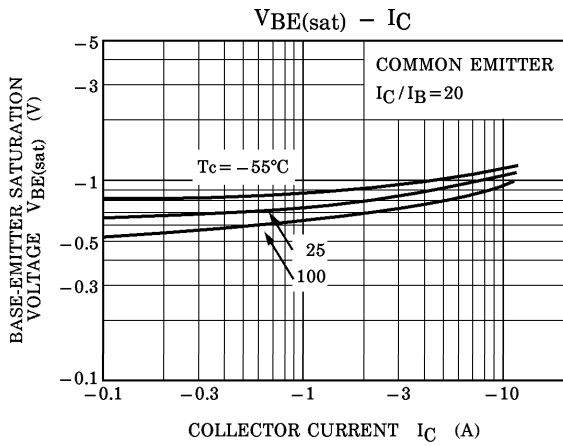
Weight : 1.7g (Typ.)

ELECTRICAL CHARACTERISTICS (T_c = 25°C)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I _{CBO}	V _{CB} = -60V, I _E = 0	—	—	-10	μA
Emitter Cut-off Current		I _{EBO}	V _{EB} = -6V, I _C = 0	—	—	-10	μA
Collector-Emitter Breakdown Voltage		V (BR) CEO	I _C = -50mA, I _B = 0	-50	—	—	V
DC Current Gain		h _{FE} (1) (Note)	V _{CE} = -1V, I _C = -1A	70	—	240	
		h _{FE} (2)	V _{CE} = -1V, I _C = -6A	40	—	—	
Saturation Voltage	Collector-Emitter	V _{CE} (sat)	I _C = -6A, I _B = -0.3A	—	-0.15	-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	—	70	—	MHz
Collector Output Capacitance		C _{ob}	V _{CB} = -10V, I _E = 0, f = 1MHz	—	320	—	pF
Switching Time	Turn-on Time	t _{on}	<p> $20\mu s$ INPUT I_{B2} OUTPUT I_{B1} I_{B1} I_C 15 $V_{CC} = -30V$ $-I_{B1} = I_{B2} = 0.3A$ DUTY CYCLE $\leq 1\%$ </p>	—	0.3	—	μs
	Storage Time	t _{stg}		—	1.0	—	
	Fall Time	t _f		—	—	0.2	

(Note) h_{FE} (1) Classification O : 70~140, Y : 120~240





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