

TOSHIBA TRANSISTOR SILICON PNP EPITAXIAL TYPE (PCT PROCESS)

2SA1428

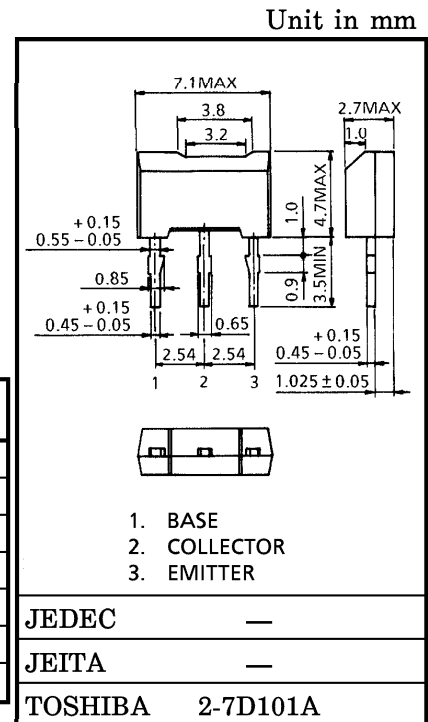
POWER AMPLIFIER APPLICATIONS

POWER SWITCHING APPLICATIONS

- Low Collector Saturation Voltage
: $V_{CE(sat)} = -0.5 \text{ V (Max.) (I}_C = -1 \text{ A)}$
- High Speed Switching Time : $t_{stg} = 1.0 \mu\text{s (Typ.)}$
- Complementary to 2SC3668.

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

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CB0}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EB0}	-5	V
Collector Current	I_C	-2	A
Collector Power Dissipation	P_C	900	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$



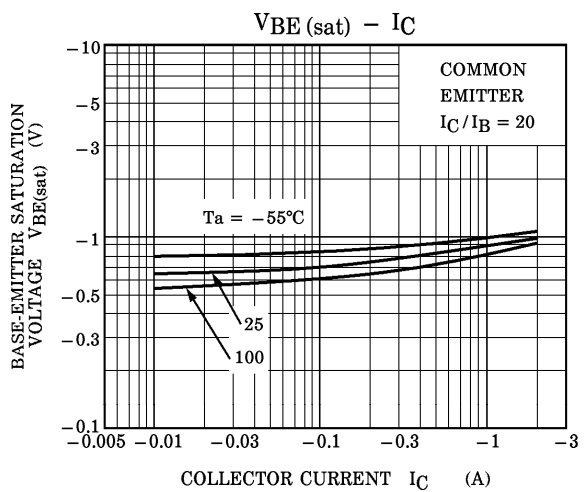
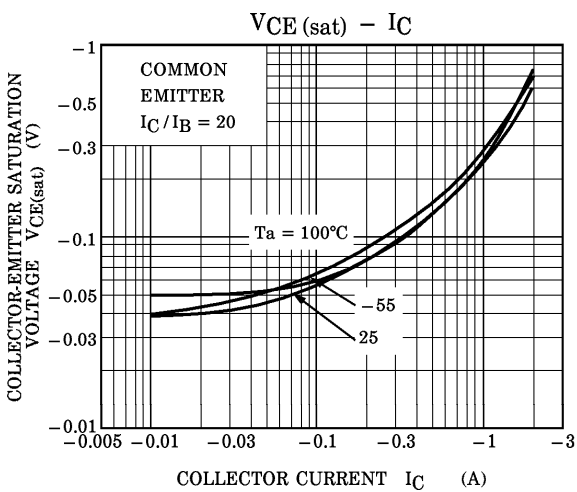
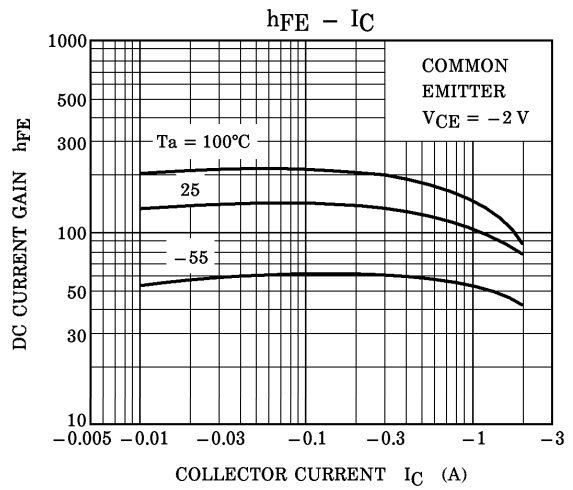
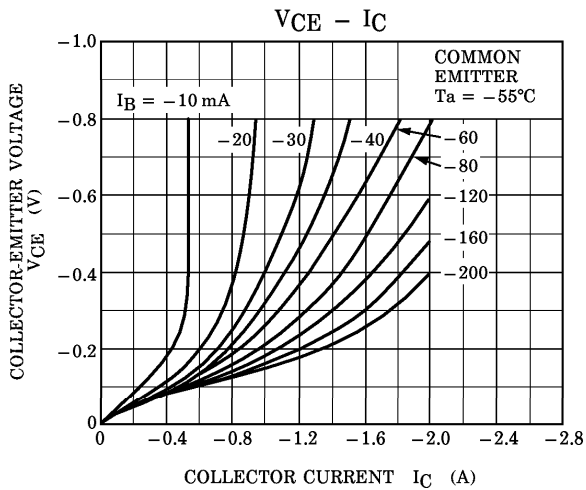
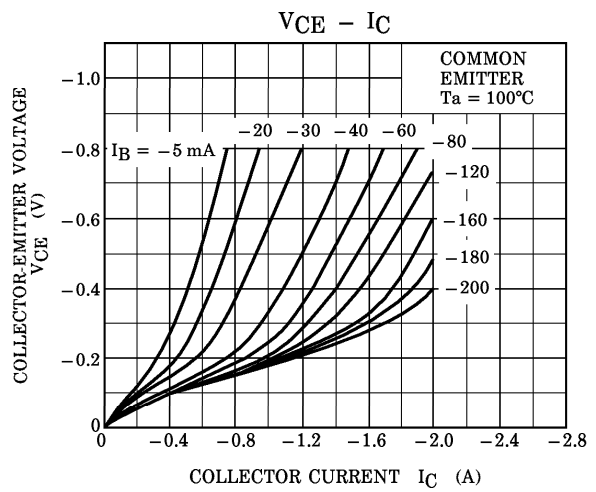
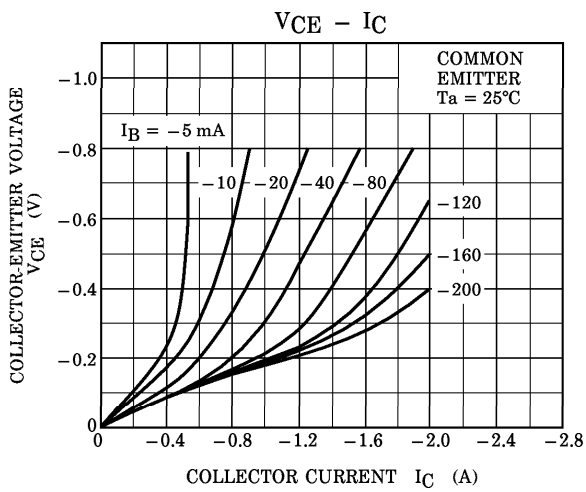
Weight : 0.2 g (Typ.)

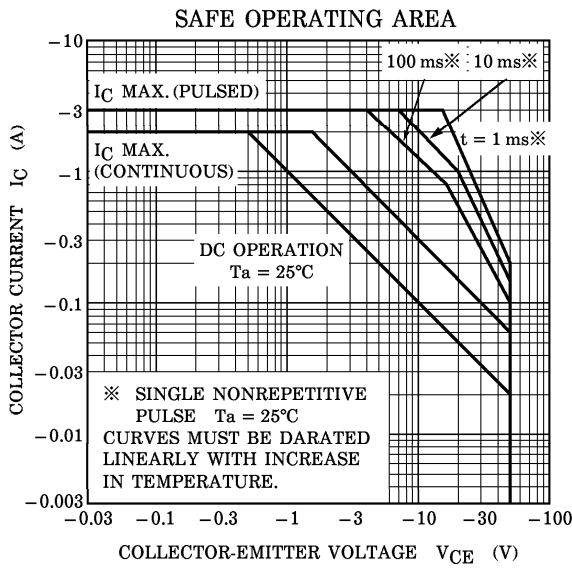
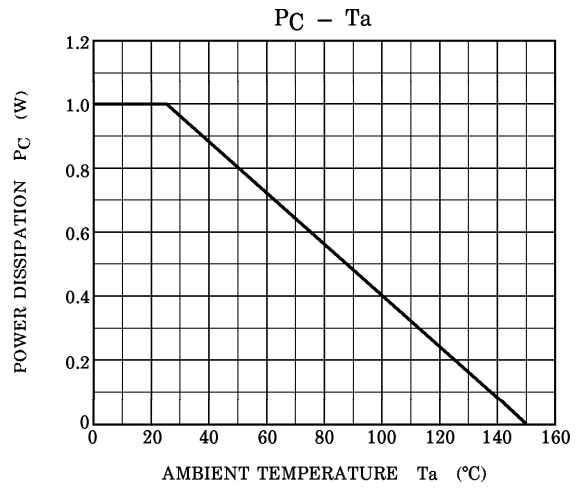
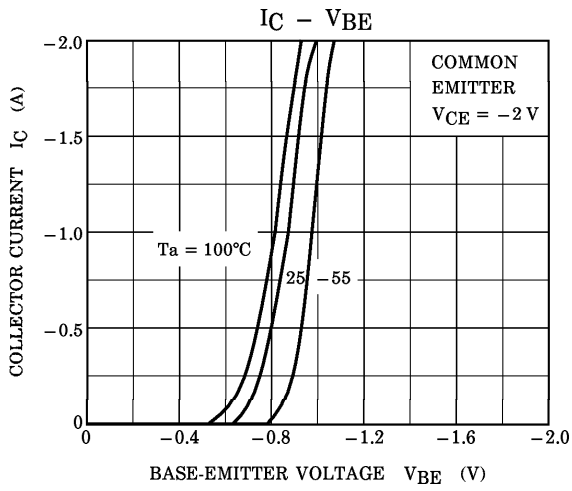
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CB0}	$V_{CB} = -50 \text{ V, } I_E = 0$	—	—	-1.0	μA
Emitter Cut-off Current	I_{EB0}	$V_{EB} = -5 \text{ V, } I_C = 0$	—	—	-1.0	μA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -10 \text{ mA, } I_B = 0$	-50	—	—	V
DC Current Gain	$h_{FE(1)}$	$V_{CE} = -2 \text{ V, } I_C = -0.5 \text{ A (Note)}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = -2 \text{ V, } I_C = -1.5 \text{ A}$	40	—	—	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -1 \text{ A, } I_B = -0.05 \text{ A}$	—	—	-0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -1 \text{ A, } I_B = -0.05 \text{ A}$	—	—	-1.2	V
Transition Frequency	f_T	$V_{CE} = -2 \text{ V, } I_C = -0.5 \text{ A}$	—	100	—	MHz
Collector Output Capacitance	C_{ob}	$V_{CB} = -10 \text{ V, } I_E = 0, f = 1 \text{ MHz}$	—	40	—	pF
Switching Time	Turn-on Time	t_{on}	—	0.1	—	μs
	Storage Time	t_{stg}	—	1.0	—	
	Fall Time	t_f	—	0.1	—	

I_{B2} OUTPUT
 I_{B1} INPUT
 $20 \mu\text{s}$
 $-I_{B1} = I_{B2} = 0.05 \text{ A}$
DUTY CYCLE $\leq 1\%$
 30Ω
 $V_{CC} = -30 \text{ V}$

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





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