

TOSHIBA Transistor Silicon PNP Triple Diffused Type (PCT process)

2SA1384

HIGH Voltage Control Applications
 Plasma Display, Nixie Tube Driver Applications
 Cathode Ray Tube Brightness Control Applications

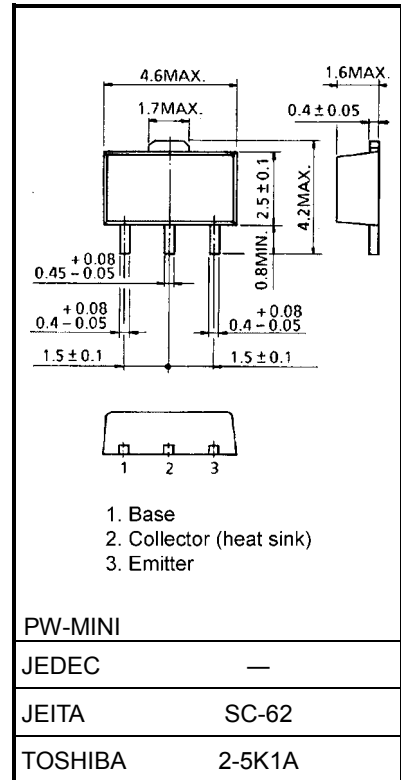
- High voltage: $V_{CBO} = -300\text{ V}$, $V_{CEO} = -300\text{ V}$
- Low saturation voltage: $V_{CE(sat)} = -0.5\text{ V (max)}$
- Small collector output capacitance: $C_{ob} = 6\text{ pF (typ.)}$
- Complementary to 2SC3515
- Small flat package
- $P_C = 1.0\text{ to }2.0\text{ W (mounted ceramic substrate)}$

Maximum Ratings ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-300	V
Collector-emitter voltage	V_{CEO}	-300	V
Emitter-base voltage	V_{EBO}	-8	V
Collector current	I_C	-100	mA
Base current	I_B	-20	mA
Collector power dissipation	P_C	500	mW
	P_C (Note 1)	1000	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

Note 1: 2SA1384 mounted on ceramic substrate ($250\text{ mm}^2 \times 0.8\text{ t}$)

Unit: mm



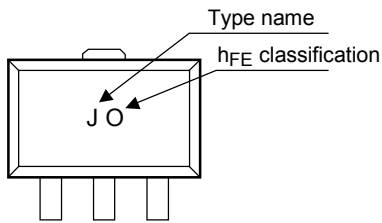
Weight: 0.05 g (typ.)

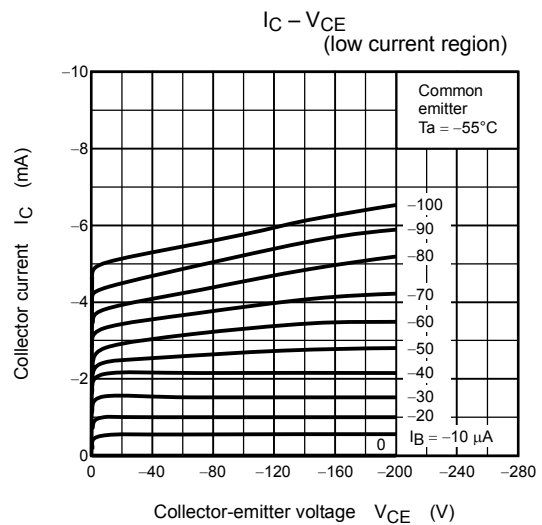
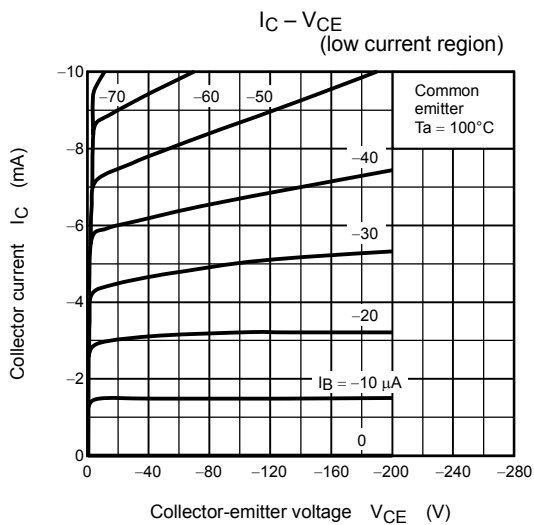
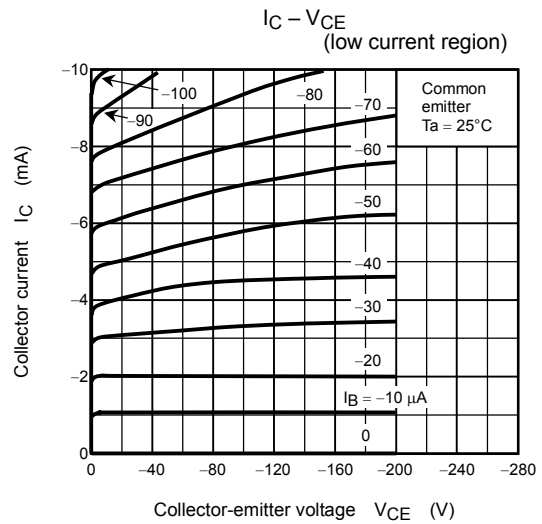
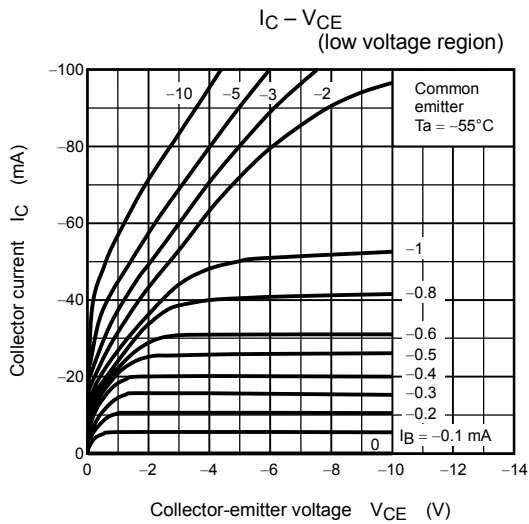
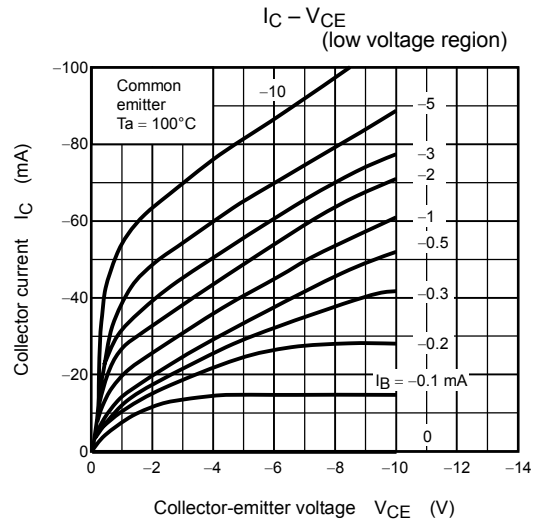
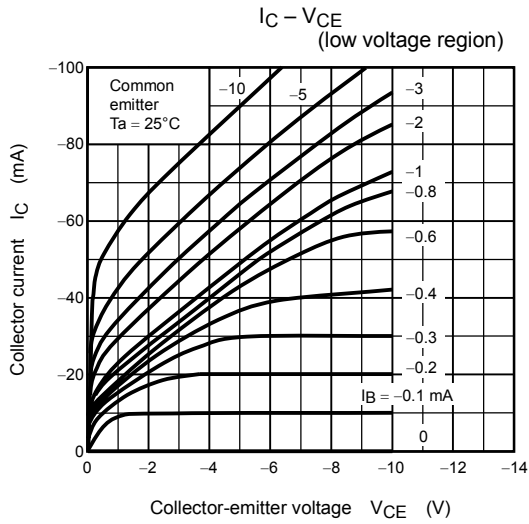
Electrical Characteristics (Ta = 25°C)

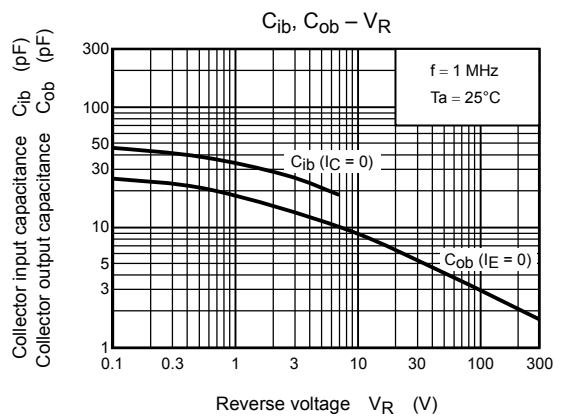
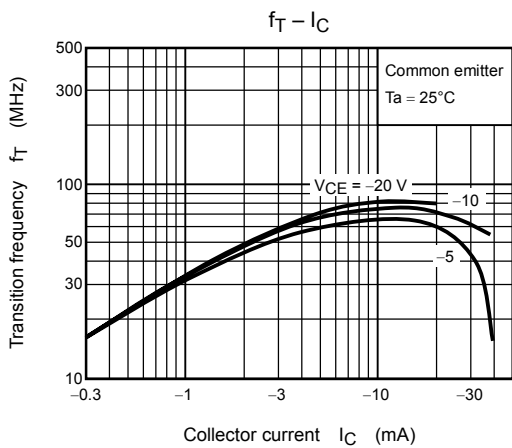
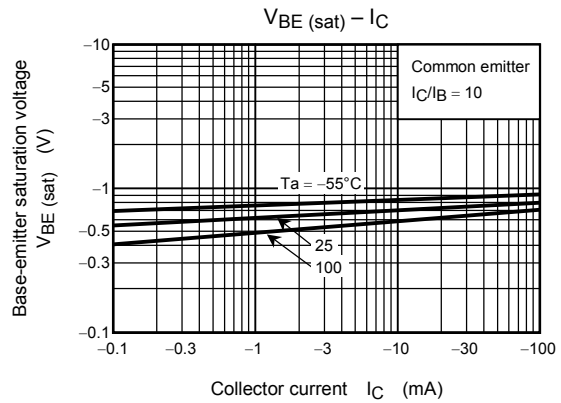
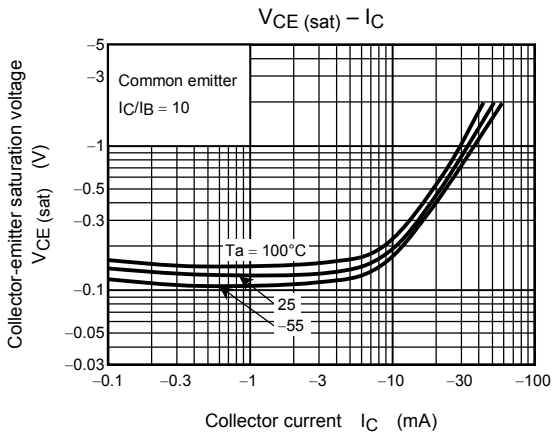
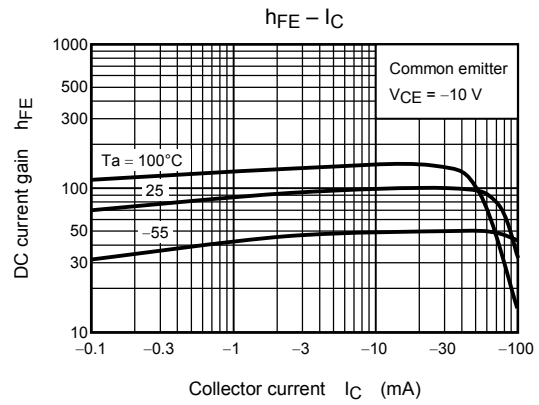
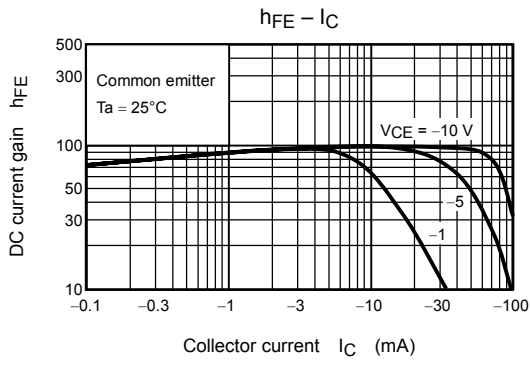
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I_{CBO}	$V_{CB} = -300\text{ V}, I_E = 0$	—	—	-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -8\text{ V}, I_C = 0$	—	—	-0.1	μA
Collector-base breakdown voltage	$V_{(BR) CBO}$	$I_C = -0.1\text{ mA}, I_E = 0$	-300	—	—	V
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = -1\text{ mA}, I_B = 0$	-300	—	—	V
DC current gain	$h_{FE} (1)$ (Note 2)	$V_{CE} = -10\text{ V}, I_C = -20\text{ mA}$	30	—	150	
	$h_{FE} (2)$	$V_{CE} = -10\text{ V}, I_C = -1\text{ mA}$	20	—	—	
Collector-emitter saturation voltage	$V_{CE (sat)}$	$I_C = -20\text{ mA}, I_B = -2\text{ mA}$	—	—	-0.5	V
Base-emitter saturation voltage	$V_{BE (sat)}$	$I_C = -20\text{ mA}, I_B = -2\text{ mA}$	—	—	-1.0	V
Transition frequency	f_T	$V_{CE} = -10\text{ V}, I_C = -20\text{ mA}$	50	70	—	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -20\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	6	8	pF

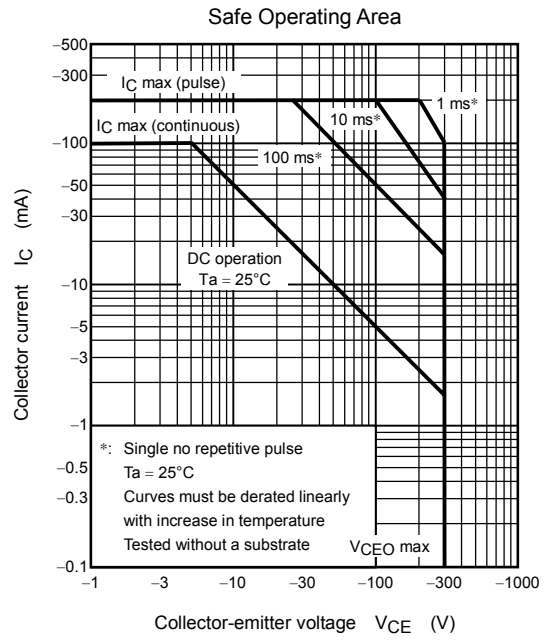
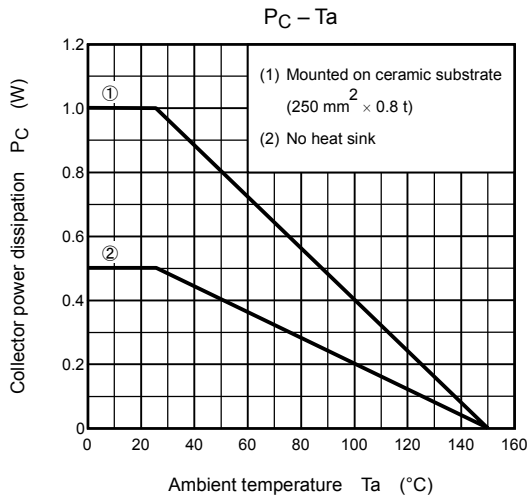
Note 2: $h_{FE} (1)$ classification R: 30 to 90, O: 50 to 150

Marking









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