

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

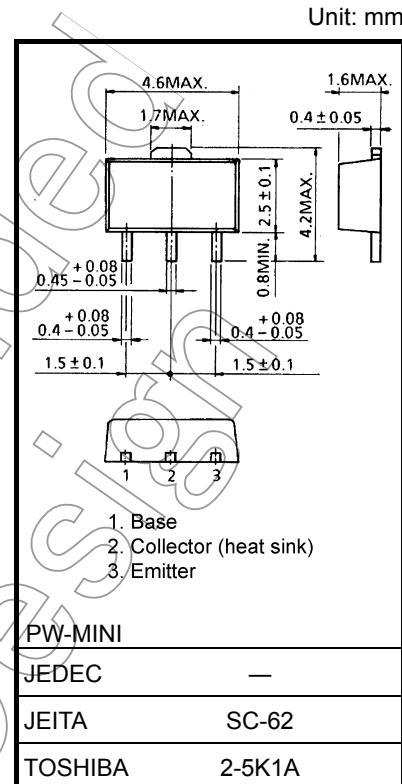
Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

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	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature range	T_{stg}	-55 to 150	$^\circ\text{C}$

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

Note 2: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc.).



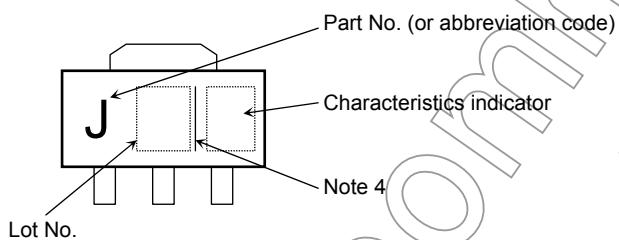
Weight: 0.05 g (typ.)

Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = -300 V, I _E = 0A	—	—	-0.1	μA
Emitter cut-off current	I _{EBO}	V _{EB} = -8 V, I _C = 0A	—	—	-0.1	μA
Collector-base breakdown voltage	V _{(BR) CBO}	I _C = -0.1 mA, I _E = 0A	-300	—	—	V
Collector-emitter breakdown voltage	V _{(BR) CEO}	I _C = -1 mA, I _B = 0A	-300	—	—	V
DC current gain	h _{FE} (1) (Note 3)	V _{CE} = -10 V, I _C = -20 mA	30	—	150	
	h _{FE} (2)	V _{CE} = -10 V, I _C = -1 mA	20	—	—	
Collector-emitter saturation voltage	V _{CE} (sat)	I _C = -20 mA, I _B = -2 mA	—	—	-0.5	V
Base-emitter saturation voltage	V _{BE} (sat)	I _C = -20 mA, I _B = -2 mA	—	—	-1.0	V
Transition frequency	f _T	V _{CE} = -10 V, I _C = -20 mA	50	70	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = -20 V, I _E = 0A, f = 1 MHz	—	6	8	pF

Note 3: h_{FE} (1) classification R: 30 to 90, O: 50 to 150

Marking



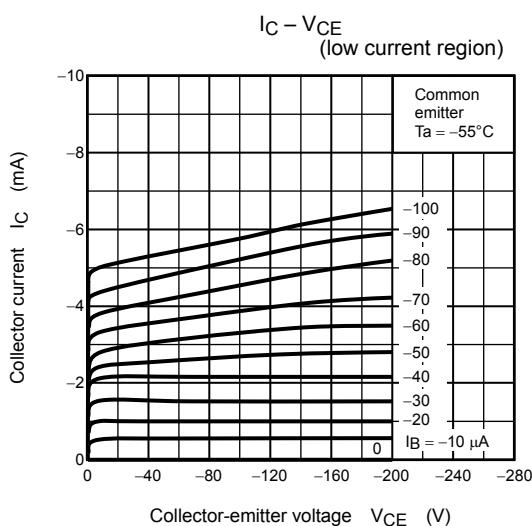
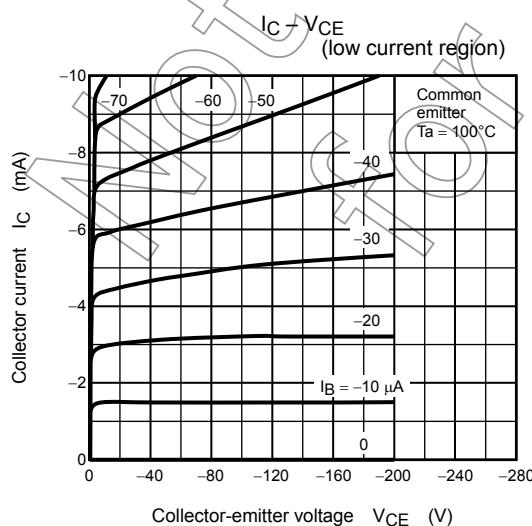
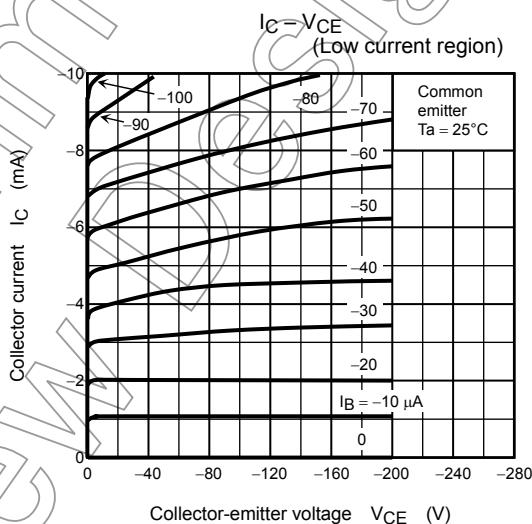
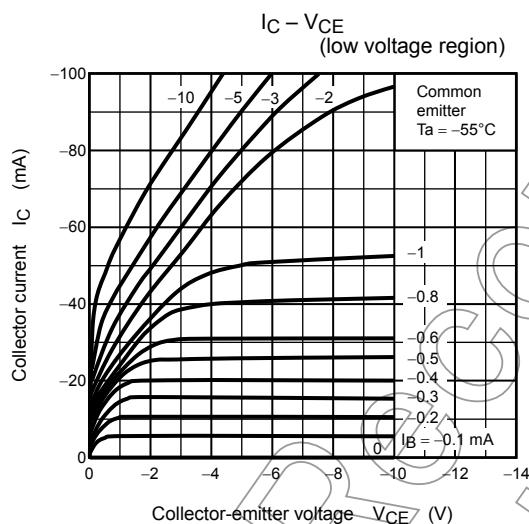
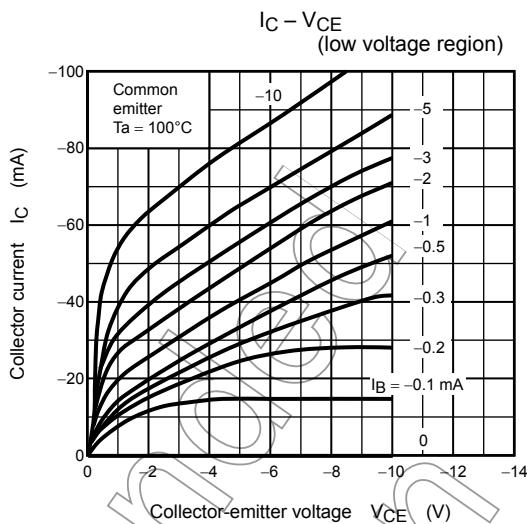
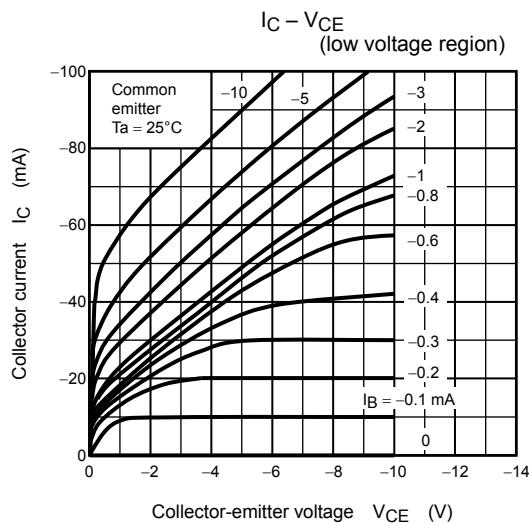
Note 4: A line beside a Lot No. identifies the indication of product Labels.

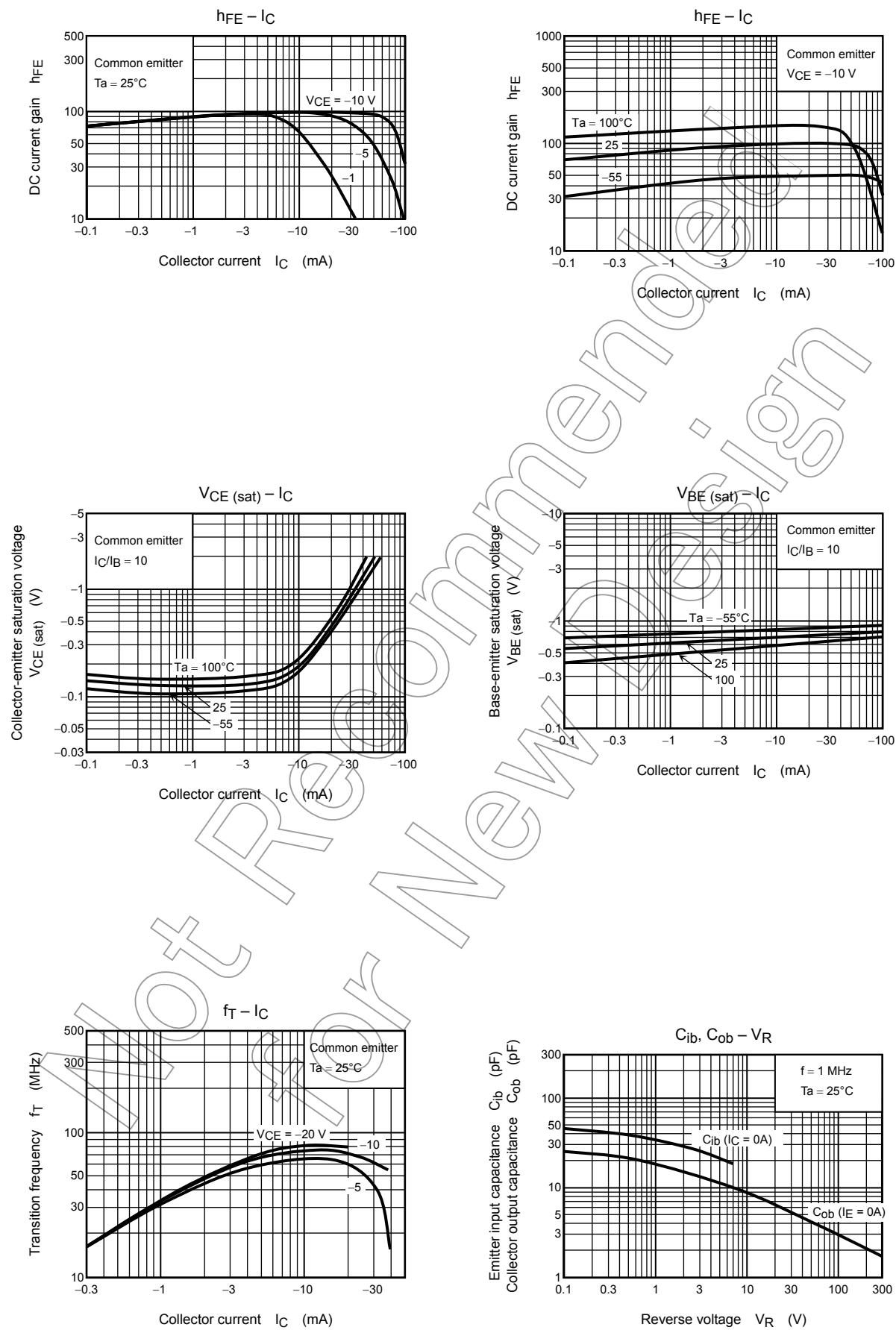
Without a line: [[Pb]]/INCLUDES > MCV

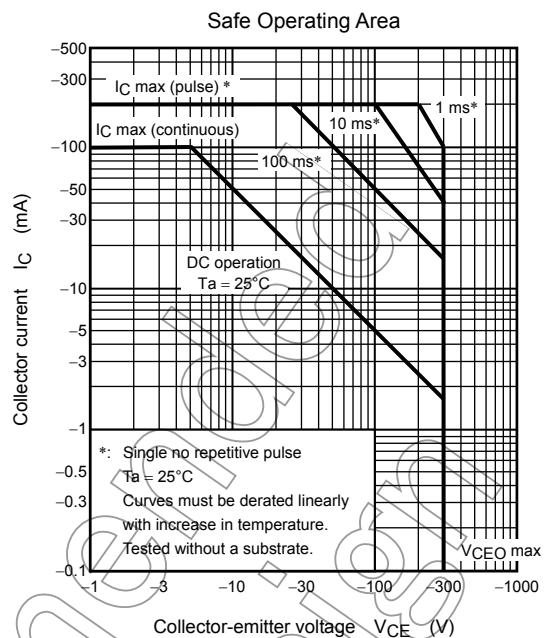
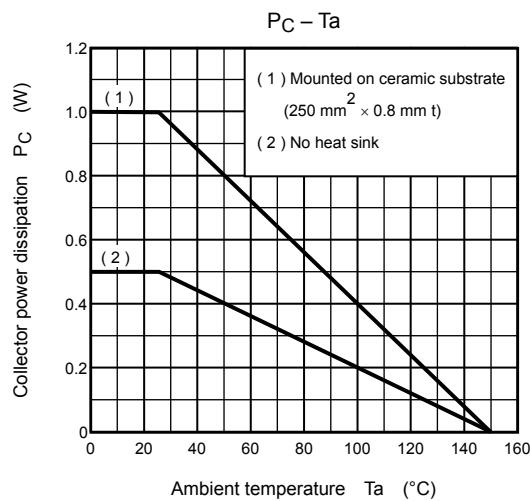
With a line : [[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.







Not Recommended for New Design

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