

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

2SA1314

Strobe Flash Applications

Audio Power Applications

- High DC current gain and excellent linearity
: $h_{FE} (1) = 140 \text{ to } 600$ ($V_{CE} = -1 \text{ V}$, $I_C = -0.5 \text{ A}$)
: $h_{FE} (2) = 60 \text{ (min), } 120 \text{ (typ.)}$, ($V_{CE} = -1 \text{ V}$, $I_C = -4 \text{ A}$)
- Low saturation voltage
: $V_{CE} (\text{sat}) = -0.5 \text{ V (max)}$ ($I_C = -2 \text{ A}$, $I_B = -50 \text{ mA}$)
- Small package
- Complementary to 2SC2982

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

Characteristics		Symbol	Rating	Unit
Collector-base voltage		V_{CBO}	-20	V
Collector-emitter voltage		V_{CEO}	-10	V
Emitter-base voltage		V_{EBO}	-6	V
Collector current	DC	I_C	-2	A
	Pulsed (Note 1)	I_{CP}	-4	
Base current		I_B	-2	A
Collector power dissipation		P_C	500	mW
		P_C (Note 2)	1000	
Junction temperature		T_j	150	$^\circ\text{C}$
Storage temperature range		T_{stg}	-55 to 150	$^\circ\text{C}$

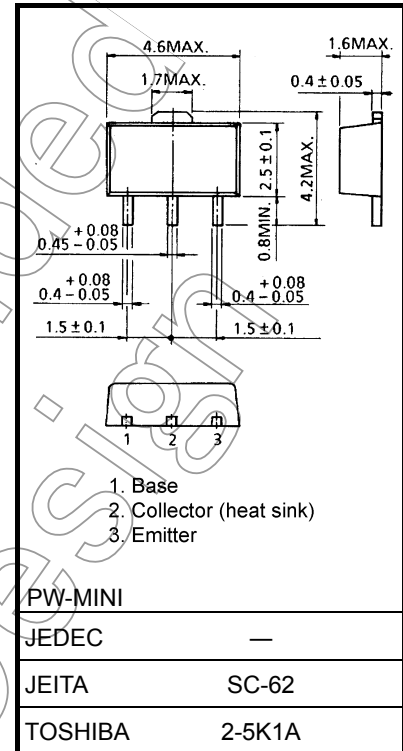
Note 1: Pulse test: pulse width = 10 ms (max), duty cycle = 30% (max)

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

Note 3: 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).

Unit: mm



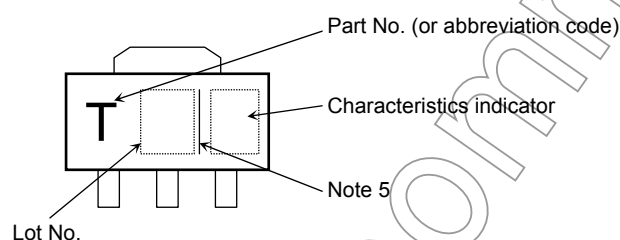
Weight: 0.05 g (typ.)

Electrical Characteristics (T_a = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I _{CBO}	V _{CB} = -20 V, I _E = 0	—	—	-100	nA
Emitter cut-off current	I _{EBO}	V _{EB} = -6 V, I _C = 0	—	—	-100	nA
Collector-emitter breakdown voltage	V _(BR) CEO	I _C = -10 mA, I _B = 0	-10	—	—	V
Emitter-base breakdown voltage	V _(BR) EBO	I _E = -1 mA, I _C = 0	-6	—	—	V
DC current gain	h _{FE} (1) (Note 4)	V _{CE} = -1 V, I _C = -0.5 A	140	—	600	
	h _{FE} (2)	V _{CE} = -1 V, I _C = -4 A	60	120	—	
Collector-emitter saturation voltage	V _{CE} (sat)	I _C = -2 A, I _B = -50 mA	—	-0.2	-0.5	V
Base-emitter voltage	V _{BE}	V _{CE} = -1 V, I _C = -2 A	—	-0.83	-1.5	V
Transition frequency	f _T	V _{CE} = -1 V, I _C = -0.5 A	—	140	—	MHz
Collector output capacitance	C _{ob}	V _{CB} = -10 V, I _E = 0, f = 1 MHz	—	50	—	pF

Note 4: h_{FE} (1) classification A: 140 to 280, B: 200 to 400, C: 300 to 600

Marking

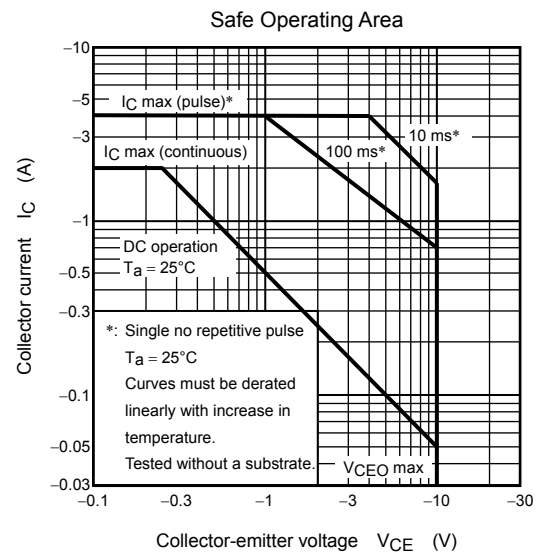
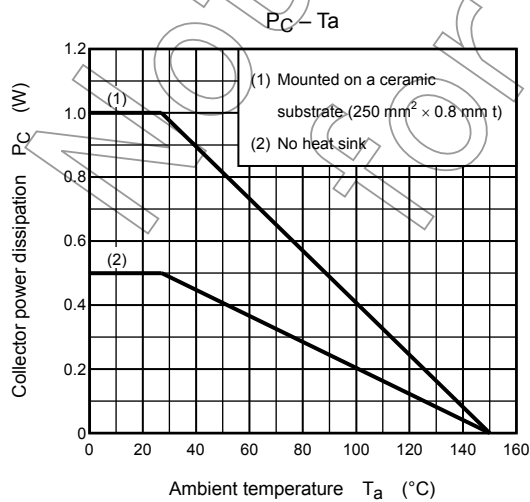
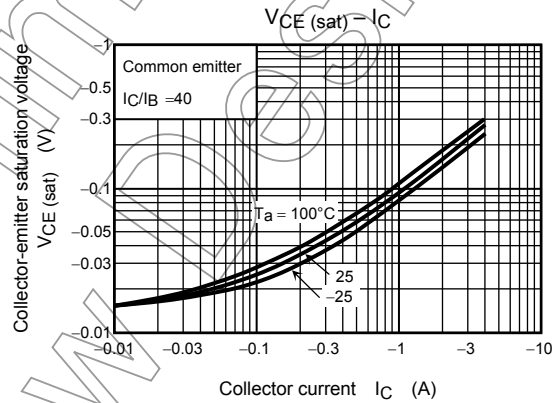
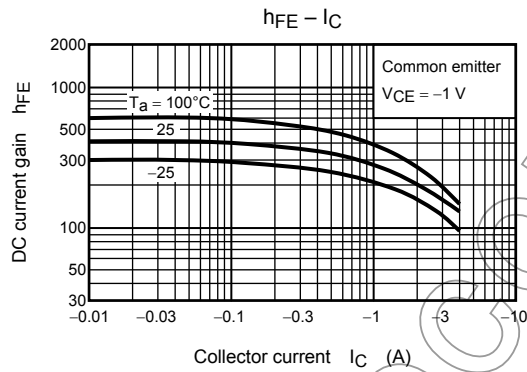
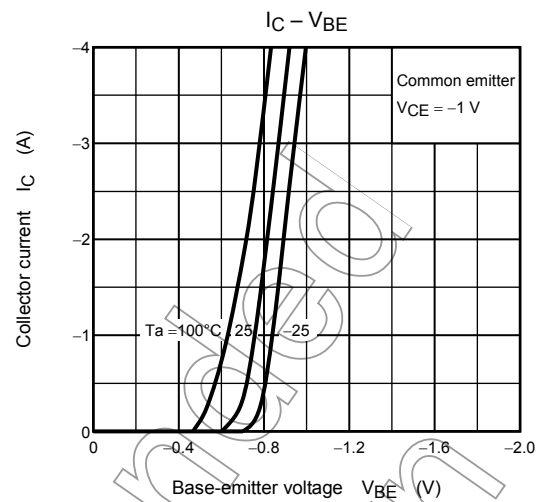
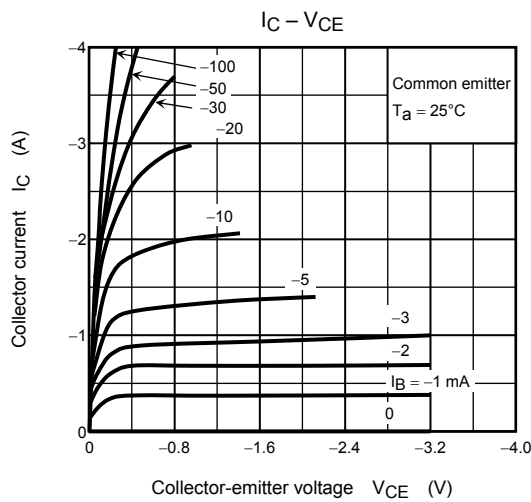


Note 5: A line beside a Lot No. identifies the indication of product Labels.

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

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

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