

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT process)

# 2SA817

## Audio Frequency Amplifier Applications

Unit: mm

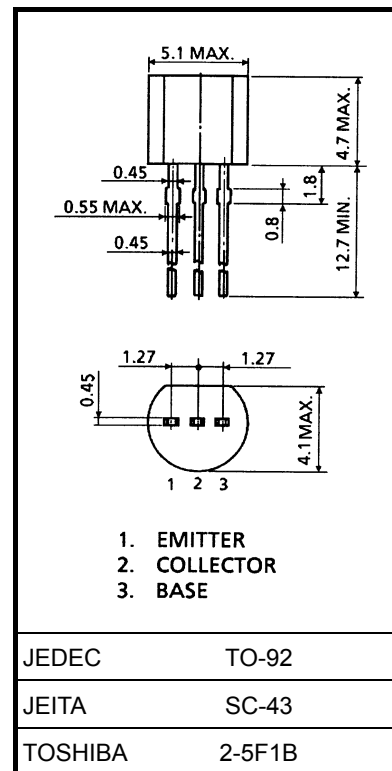
- Complementary to 2SC1627.
- Suitable for driver of 20~25 watts audio amplifiers.

## Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V <sub>CB0</sub>	-80	V
Collector-emitter voltage	V <sub>CEO</sub>	-80	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-300	mA
Base current	I <sub>B</sub>	-60	mA
Collector power dissipation	P <sub>C</sub>	600	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature range	T <sub>stg</sub>	-55~150	°C

Note: 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).

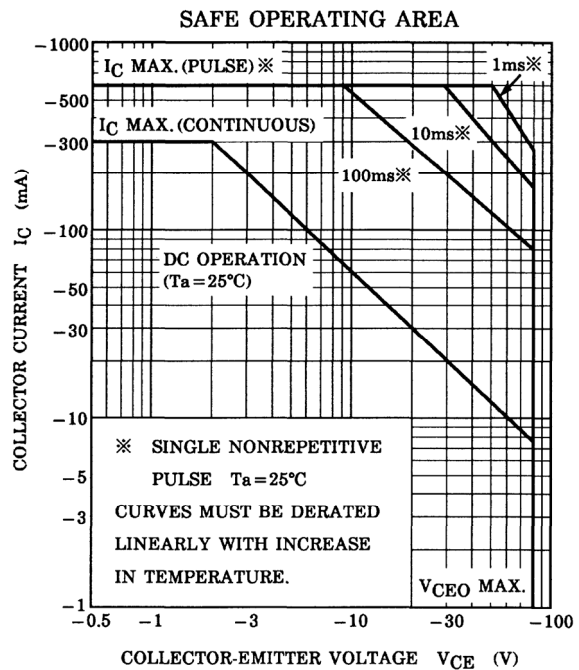
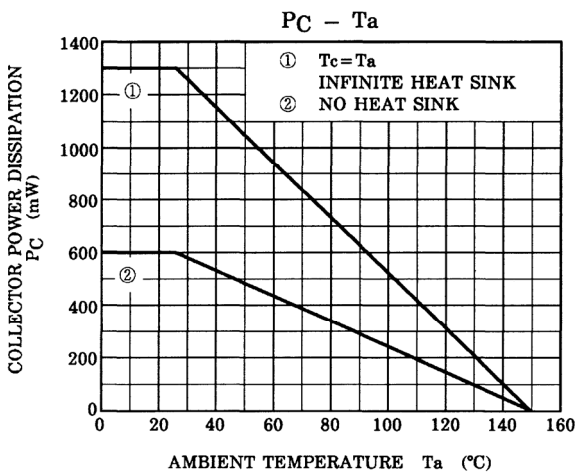
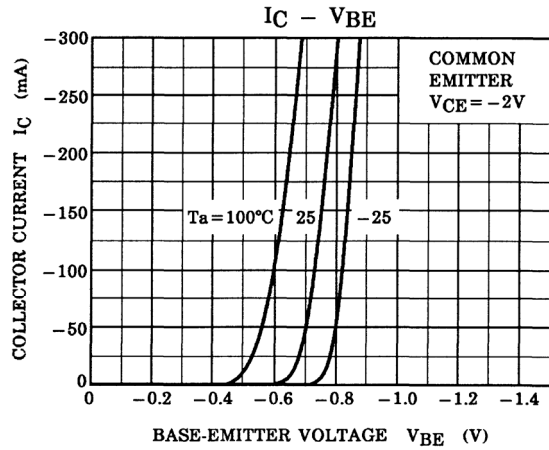
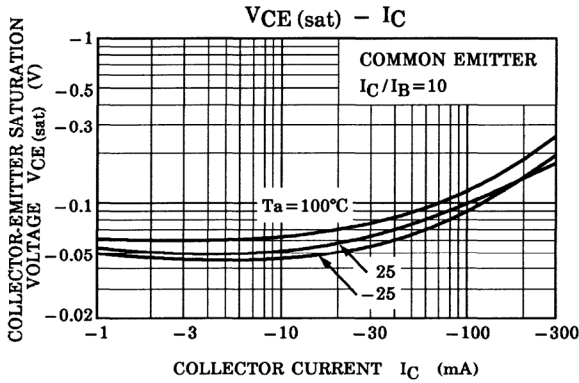
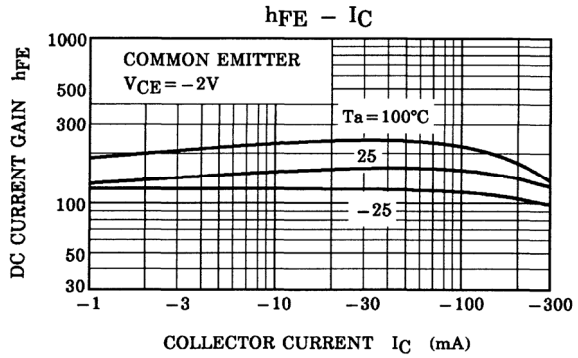
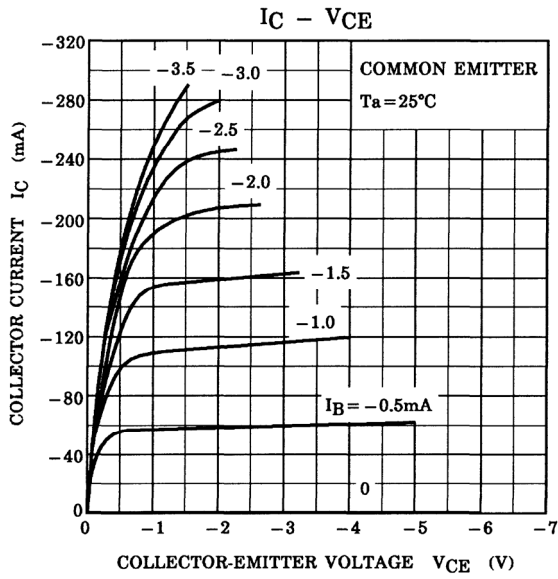


Weight: 0.21 g (typ.)

## Electrical Characteristics (Ta = 25°C)

Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -50 V, I <sub>E</sub> = 0	—	—	-0.1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = -5 V, I <sub>C</sub> = 0	—	—	-0.1	μA
Collector-emitter breakdown voltage	V <sub>(BR) CEO</sub>	I <sub>C</sub> = -5 mA, I <sub>B</sub> = 0	-80	—	—	V
DC current gain	h <sub>FE</sub> (1) (Note)	V <sub>CE</sub> = -2 V, I <sub>C</sub> = -50 mA	70	—	240	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = -2 V, I <sub>C</sub> = -200 mA	40	—	—	
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = -200 mA, I <sub>B</sub> = -20 mA	—	—	-0.4	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -2 V, I <sub>C</sub> = -5 mA	-0.55	—	-0.8	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -10 V, I <sub>C</sub> = -10 mA	70	100	—	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1 MHz	—	14	—	pF

Note: h<sub>FE</sub> (1) classification O: 70~140, Y: 120~240



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20070701-EN GENERAL

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