TOSHIBA Transistor Silicon PNP Triple Diffused Type

# 2SA1943

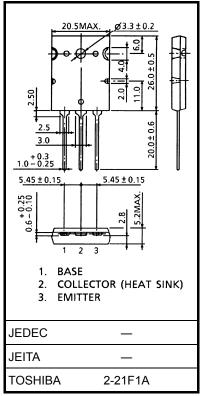
### **Power Amplifier Applications**

Unit: mm

- High collector voltage:  $V_{CEO} = -230 \text{ V (min)}$
- Complementary to 2SC5200
- Recommended for 100-W high-fidelity audio frequency amplifier output stage.

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

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	$V_{CBO}$	-230	V	
Collector-emitter voltage	V <sub>CEO</sub>	-230	٧	
Emitter-base voltage	V <sub>EBO</sub>	-5	<b>V</b>	
Collector current	Ic	-15	Α	
Base current	ΙΒ	-1.5	Α	
Collector power dissipation	D-	150	W	
(Tc = 25°C)	PC	150	VV	
Junction temperature	Tj	150	°C	
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C	



Weight: 9.75 g (typ.)

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).

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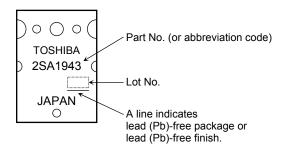


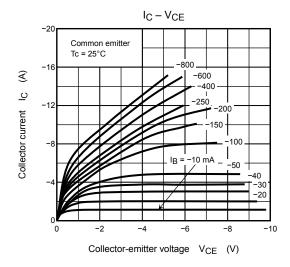
## **Electrical Characteristics (Ta = 25°C)**

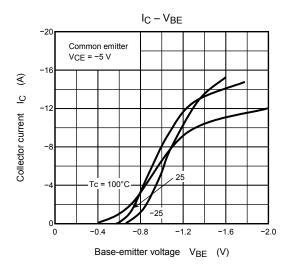
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	$V_{CB} = -230 \text{ V}, I_{E} = 0$	_	_	-5.0	μΑ
Emitter cut-off current	I <sub>EBO</sub>	$V_{EB} = -5 \text{ V}, I_C = 0$	_	_	-5.0	μΑ
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = -50 \text{ mA}, I_B = 0$	-230	_	_	V
DC current gain	h <sub>FE (1)</sub> (Note)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -1 A	55	_	160	
	h <sub>FE (2)</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -7 A	35	60	_	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = -8 A, I <sub>B</sub> = -0.8 A	_	-1.5	-3.0	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -7 A	_	-1.0	-1.5	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -1 A	_	30	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = -10 V, I <sub>E</sub> = 0, f = 1 MHz	_	360	_	pF

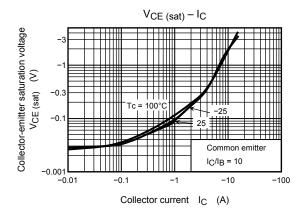
Note:  $h_{FE(1)}$  classification R: 55 to 110, O: 80 to 160

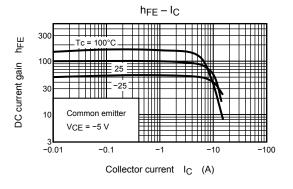
### Marking

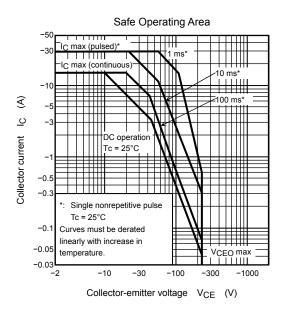




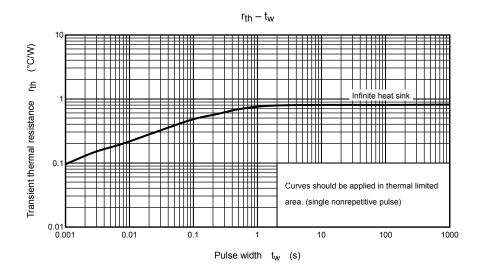








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