TOSHIBA Transistor Silicon PNP Triple Diffused Type

# 2SA1941

## **Power Amplifier Applications**

Unit: mm

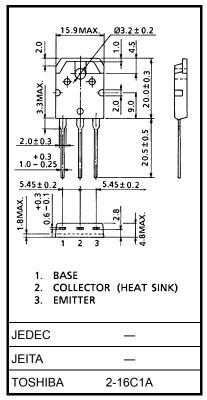
- High breakdown voltage:  $V_{CEO} = -140 \text{ V (min)}$
- Complementary to 2SC5198
- Recommended for 70-W high-fidelity audio frequency amplifier output stage.

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	$V_{CBO}$	-140	V
Collector-emitter voltage	V <sub>CEO</sub>	-140	V
Emitter-base voltage	V <sub>EBO</sub>	-5	٧
Collector current	IC	-10	Α
Base current	ΙB	-1	Α
Collector power dissipation (Tc = 25°C)	P <sub>C</sub>	100	W
Junction temperature	Tj	150	°C
Storage temperature range	T <sub>stg</sub>	-55 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high

temperature/current/voltage and the significant change in



Weight: 4.7 g (typ.)

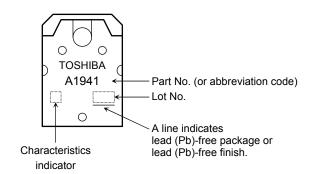
temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

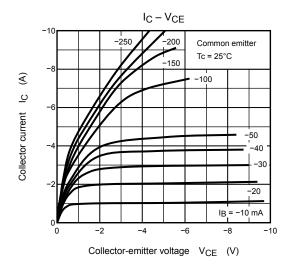
## **Electrical Characteristics (Tc = 25°C)**

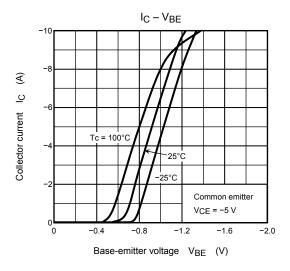
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = -140 V, I <sub>E</sub> = 0	_	_	-5.0	μΑ
Emitter cut-off current	I <sub>EBO</sub>	$V_{EB} = -5 \text{ V}, I_C = 0$	_	_	-5.0	μA
Collector-emitter breakdown voltage	V (BR) CEO	$I_C = -50 \text{ mA}, I_B = 0$	-140	_	_	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> = -5 A	35	83	_	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = -7 A, I <sub>B</sub> = -0.7 A	_	-0.8	-2.0	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -5 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	_	320	_	pF

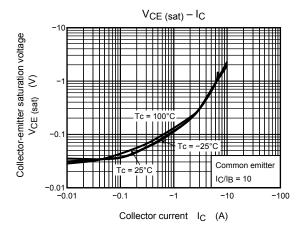
Note:  $h_{FE(1)}$  classification R: 55 to 110, O: 80 to 160

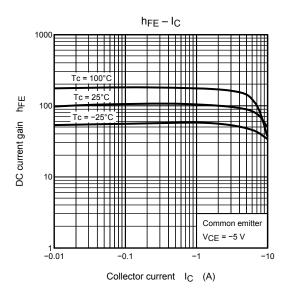
## Marking

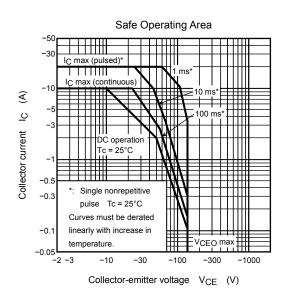












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