TOSHIBA Transistor Silicon PNP Triple Diffused Type

# 2SA949

Driver-Stage Audio Amplifier Applications High-Voltage Switching Applications

• High breakdown voltage: VCEO = -150 V

• Low output capacitance:  $C_{ob} = 5.0 \text{ pF (max)}$ 

• High transition frequency: f<sub>T</sub> = 120 MHz (typ.)

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

Characteristics	Symbol	Rating	Unit	
Collector-base voltage	V <sub>CBO</sub>	-150	V	
Collector-emitter voltage	V <sub>CEO</sub>	-150	V	
Emitter-base voltage	V <sub>EBO</sub>	-5	V	
Collector current	Ic	-50	mA	
Base current	ΙΒ	5	mA	
Collector power dissipation	PC	800	mW	
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 temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e.

1. EMITTER
2. COLLECTOR
3. BASE

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TOSHIBA 2-5J1A

Weight: 0.36 g (typ.)

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).

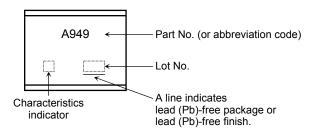


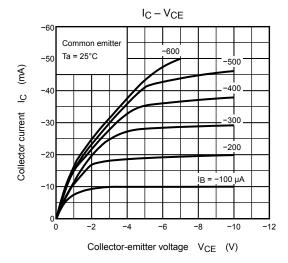
## **Electrical Characteristics (Ta = 25°C)**

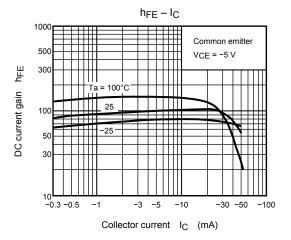
Characteristics	Symbol	Test Condition	Min	Тур.	Max	Unit
Collector cut-off current	I <sub>CBO</sub>	$V_{CB} = -150 \text{ V}, I_E = 0$	_	_	-0.1	μΑ
Emitter cut-off current	I <sub>EBO</sub>	$V_{EB} = -5 \text{ V}, I_{C} = 0$	_	_	-0.1	μΑ
DC current gain	h <sub>FE</sub> (Note)	V <sub>CE</sub> = -5 V, I <sub>C</sub> = -10 mA	70	_	240	
Collector-emitter saturation voltage	V <sub>CE</sub> (sat)	I <sub>C</sub> = -10 mA, I <sub>B</sub> = -1 mA	_	_	-0.8	V
Base-emitter voltage	V <sub>BE</sub>	$V_{CE} = -5 \text{ V}, I_{C} = -30 \text{ mA}$	_	_	-0.9	V
Transition frequency	f <sub>T</sub>	$V_{CE} = -30 \text{ V}, I_{C} = -10 \text{ mA}$	_	120	_	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = −10 V, I <sub>E</sub> = 0, f = 1 MHz	_	4.0	5.0	pF

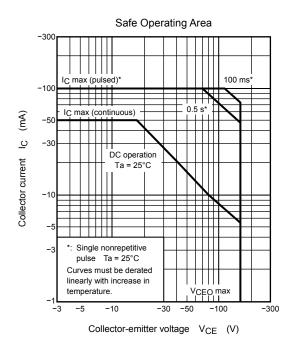
Note:  $h_{\mbox{\scriptsize FE}}$  classification O: 70 to 140, Y: 120 to 240

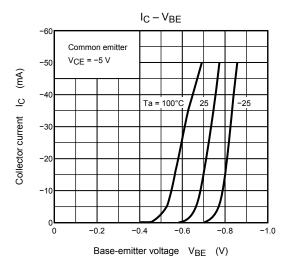
### Marking

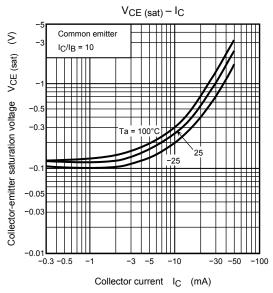


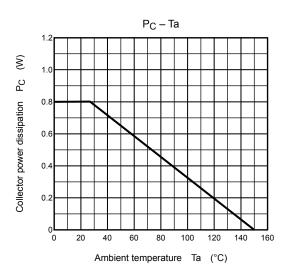












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