

TOSHIBA Transistor Silicon PNP Epitaxial Type (PCT Process)

# 2SA1869

## Power Amplifier Applications

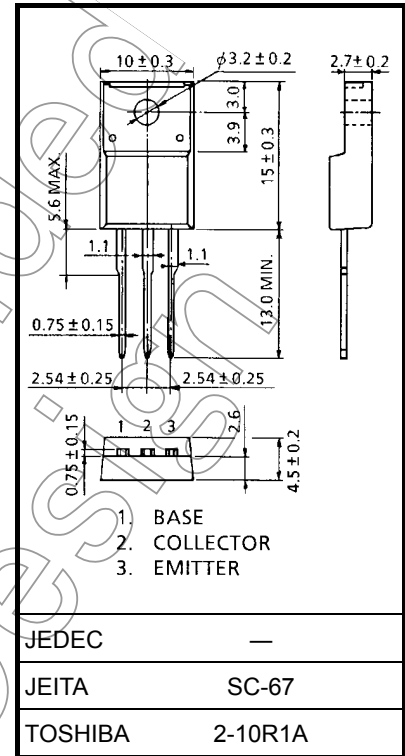
- Good linearity of hFE
- Complementary to 2SC4935

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

Characteristics	Symbol	Rating	Unit
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>C</sub>	-3	A
Base current	I <sub>B</sub>	-0.3	A
Collector power dissipation (Tc = 25°C)	P <sub>C</sub>	10	W
Junction temperature	T <sub>j</sub>	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. 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: 1.7 g (typ.)

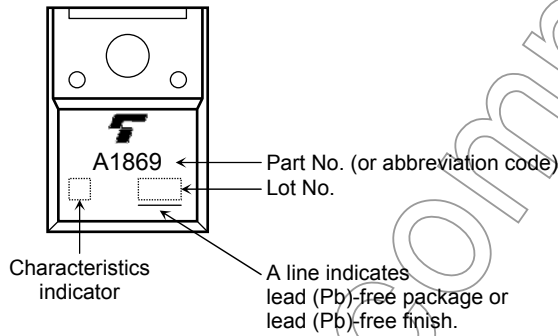
Not for New

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

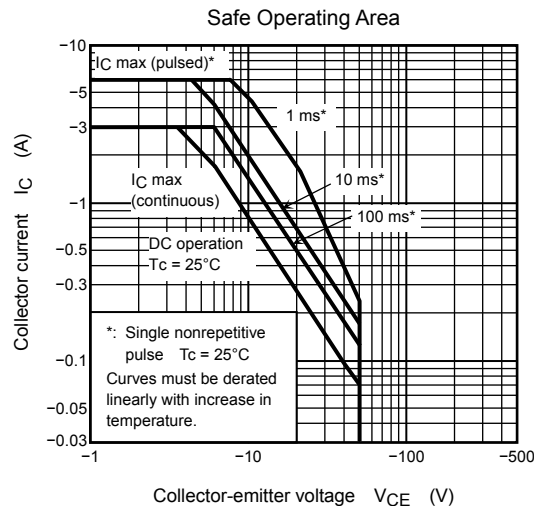
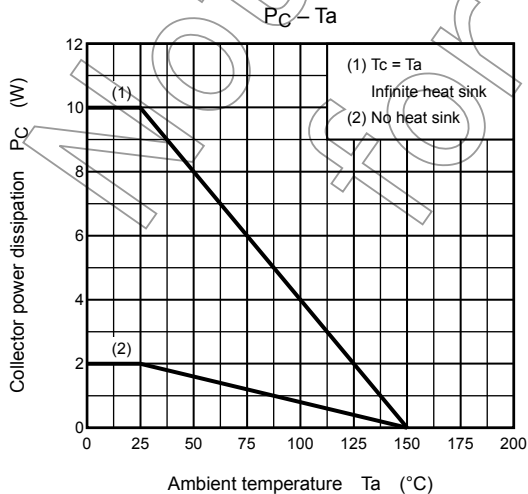
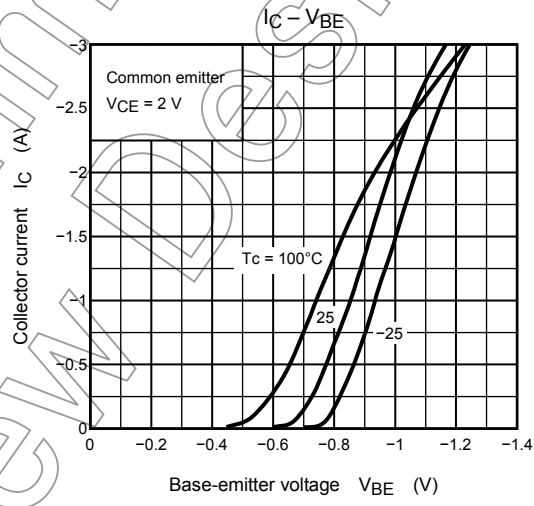
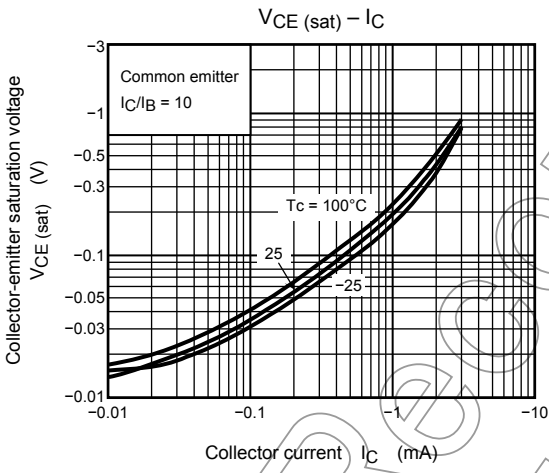
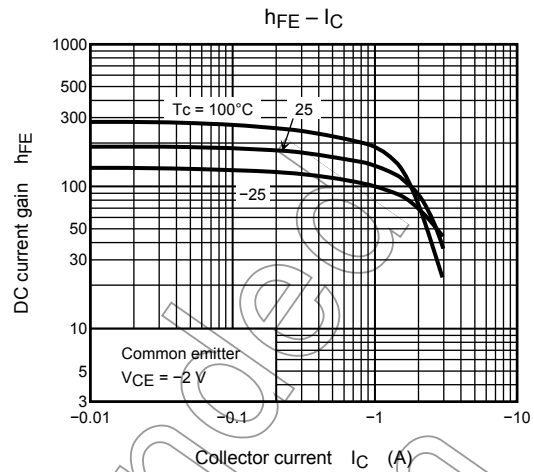
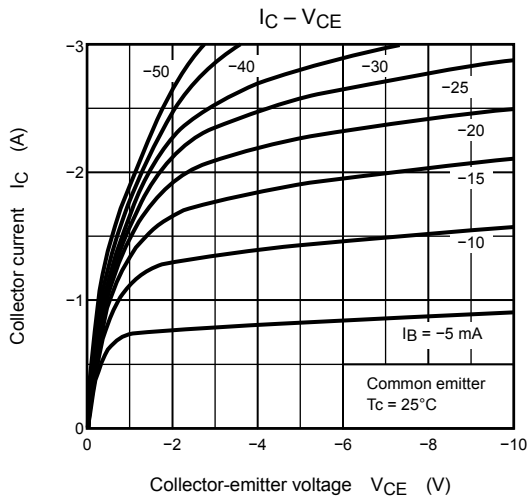
Characteristics	Symbol	Test Condition	Min	Typ.	Max	Unit
Collector cut-off current	$I_{CBO}$	$V_{CB} = -50\text{ V}, I_E = 0$	—	—	-1.0	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -5\text{ V}, I_C = 0$	—	—	-1.0	$\mu\text{A}$
Collector-emitter breakdown voltage	$V_{(BR) CEO}$	$I_C = -10\text{ mA}, I_B = 0$	-50	—	—	V
DC current gain	$h_{FE(1)}$ (Note)	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	70	—	240	
	$h_{FE(2)}$	$V_{CE} = -2\text{ V}, I_C = -2.5\text{ A}$	30	—	—	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -2\text{ A}, I_B = -0.2\text{ A}$	—	-0.3	-0.6	V
Base-emitter voltage	$V_{BE}$	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	-0.8	-1.0	V
Transition frequency	$f_T$	$V_{CE} = -2\text{ V}, I_C = -0.5\text{ A}$	—	100	—	MHz
Collector output capacitance	$C_{ob}$	$V_{CB} = -10\text{ V}, I_E = 0, f = 1\text{ MHz}$	—	35	—	pF

Note:  $h_{FE(1)}$  classification O: 70 to 140, Y: 120 to 240

**Marking**



Not Recommended for New Design



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