

TOSHIBA Transistor Silicon NPN Epitaxial Type (PCT Process)

# 2SC4935

## Power Amplifier Applications

- Good hFE linearity

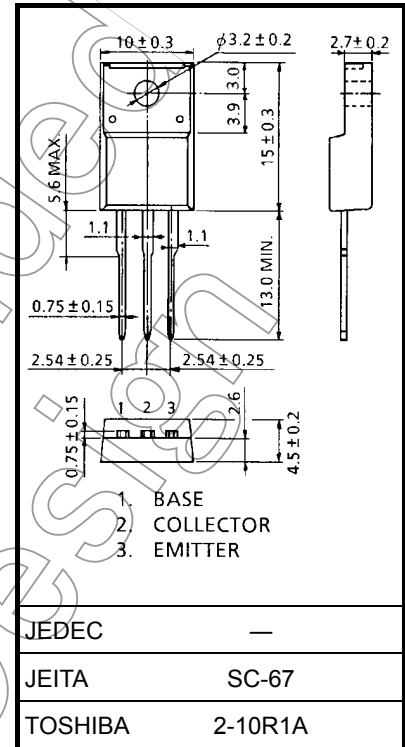
### Absolute Maximum Ratings (Ta = 25°C)

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	Ta = 25°C	P <sub>C</sub>	2	W
	Tc = 25°C		10	
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.)

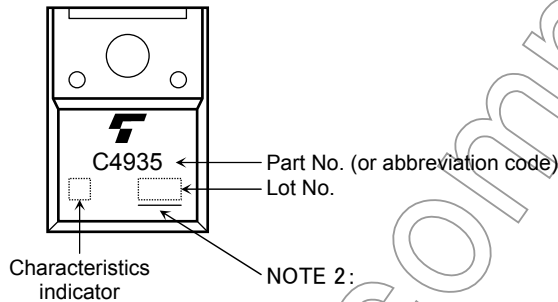
Not for New

## Electrical Characteristics (T<sub>a</sub> = 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	—	—	1	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> = 5 V, I <sub>C</sub> = 0	—	—	1	μA
Collector-emitter breakdown voltage	V <sub>(BR) CEO</sub>	I <sub>C</sub> = 10 mA, I <sub>B</sub> = 0	50	—	—	V
DC current gain	h <sub>FE</sub> (1) (Note)	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	70	—	240	
	h <sub>FE</sub> (2)	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 2.5 A	30	—	—	
Collector-emitter saturation voltage	V <sub>CE (sat)</sub>	I <sub>C</sub> = 2 A, I <sub>B</sub> = 0.2 A	—	0.4	0.6	V
Base-emitter voltage	V <sub>BE</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	—	0.75	1	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.5 A	—	80	—	MHz
Collector output capacitance	C <sub>ob</sub>	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz	—	30	—	pF

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

## Marking

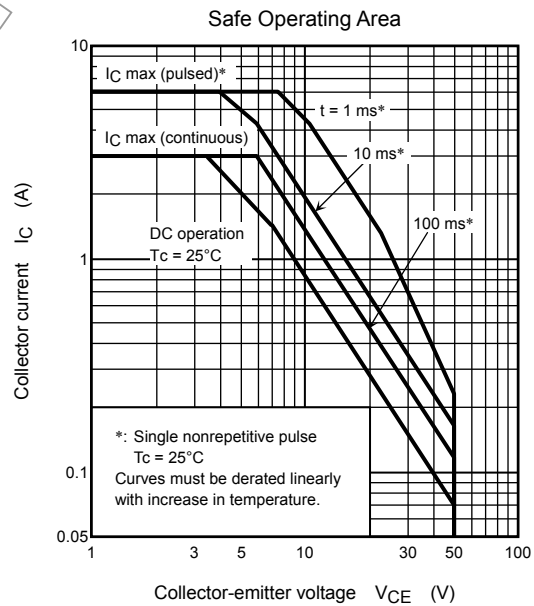
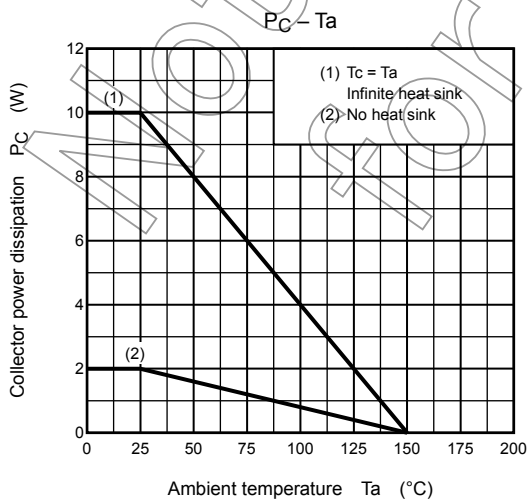
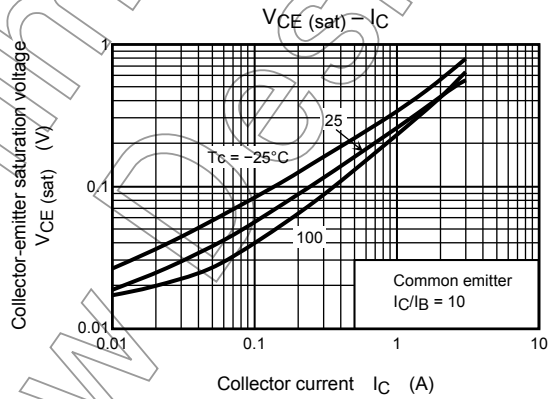
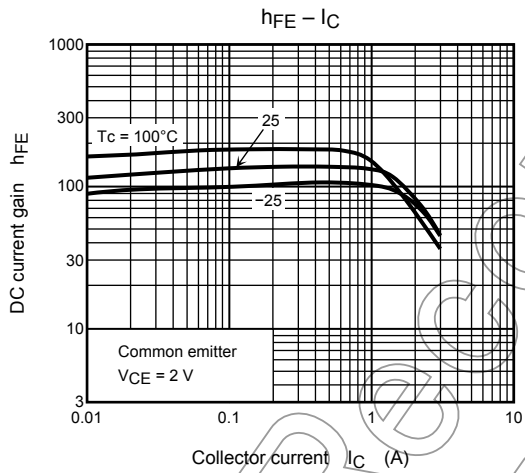
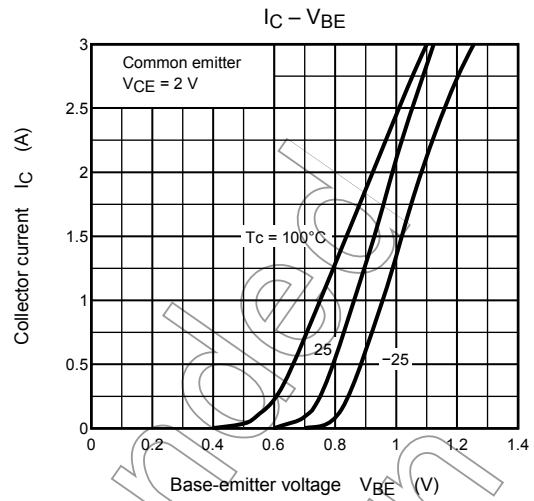
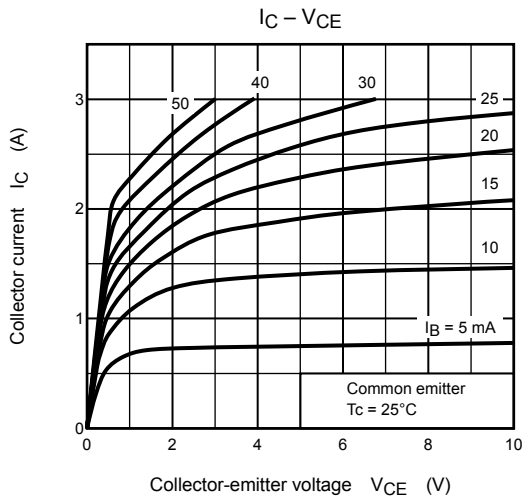


Note 2 : A line under a Lot No. identifies the indication of product Labels.

[[G]]/RoHS COMPATIBLE or [[G]]/RoHS [[Pb]]

Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product.

The RoHS is the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.



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