

To all our customers

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Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

Cautions

Keep safety first in your circuit designs!

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Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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2SD1527

Silicon NPN Triple Diffused

RENESAS

ADE-208-913 (Z)

1st. Edition

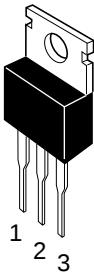
September 2000

Application

High voltage power amplifier

Outline

TO-220AB



- 1. Base
- 2. Collector (Flange)
- 3. Emitter

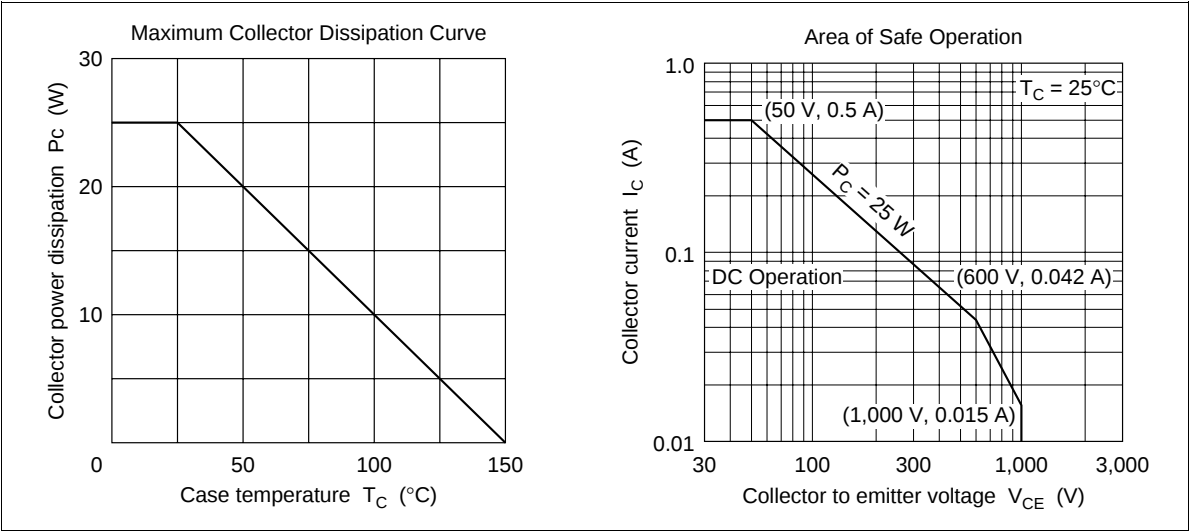
Absolute Maximum Ratings (Ta = 25°C)

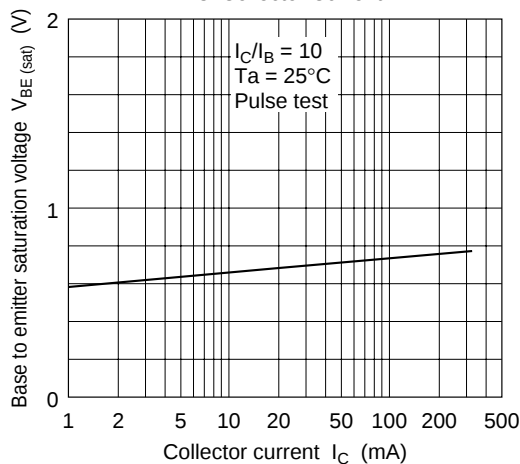
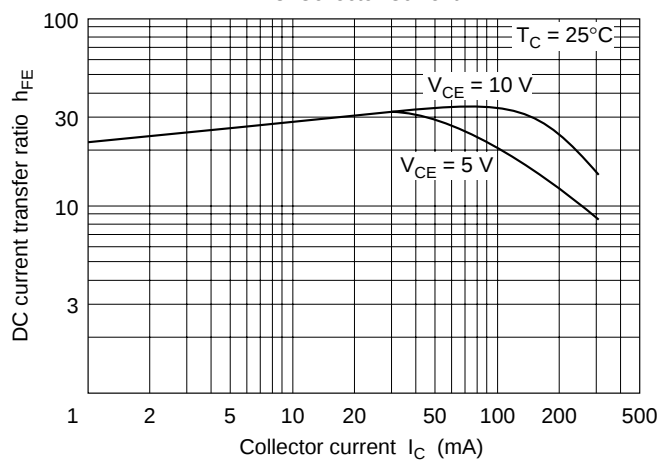
Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	1000	V
Collector to emitter voltage	V_{CEO}	1000	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	0.5	A
Collector power dissipation	P_C	1.8	W
	P_C^{*1}	25	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

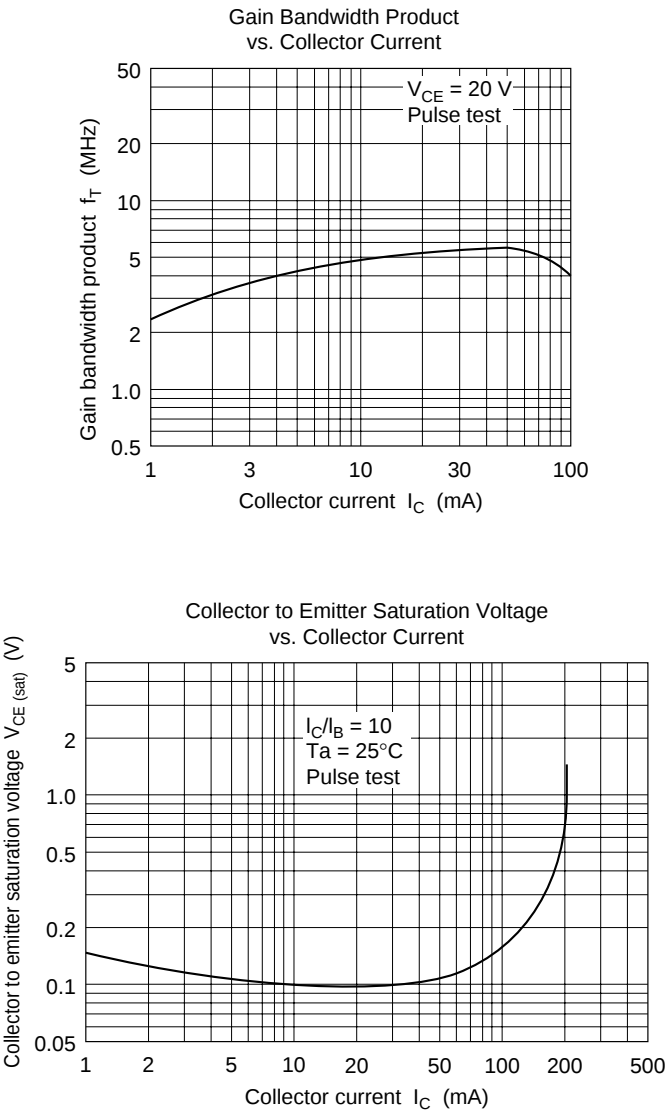
Note: 1. Value at $T_c = 25^\circ\text{C}$.

Electrical Characteristics (Ta = 25°C)

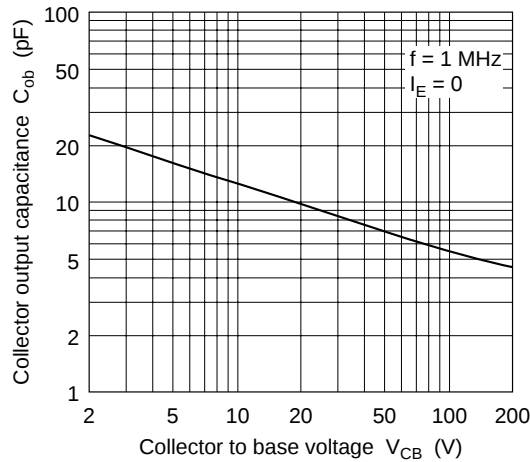
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	1000	—	—	V	$I_C = 1\text{ mA}$, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 1\text{ mA}$, $I_C = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 800\text{ V}$, $I_E = 0$
DC current transfer ratio	h_{FE1}	10	—	—		$V_{CE} = 5\text{ V}$, $I_C = 10\text{ mA}$
	h_{FE2}	10	—	—		$V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$
Base to emitter voltage	V_{BE}	—	—	1.2	V	$V_{CE} = 5\text{ V}$, $I_C = 100\text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	5	V	$I_C = 300\text{ mA}$, $I_B = 60\text{ mA}$
Gain bandwidth product	f_T	—	5	—	MHz	$V_{CE} = 20\text{ V}$, $I_C = 50\text{ mA}$
Collector output capacitance	C_{ob}	—	5	—	pF	$V_{CB} = 100\text{ V}$, $I_E = 0$, $f = 1\text{ MHz}$



Base to Emitter Saturation Voltage
vs. Collector CurrentDC Current Transfer Ratio
vs. Collector Current



Collector Output Capacitance
vs. Collector to Base Voltage



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