To all our customers

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

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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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2SD2337

Silicon NPN Triple Diffused

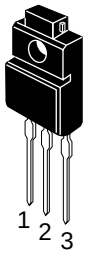
ADE-208-929 (Z)
1st. Edition
September 2000

Application

Low frequency high voltage power amplifier TV vertical deflection output complementary pair with 2SB1530

Outline

TO-220FM



1. Base
2. Collector
3. Emitter

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	200	V
Collector to emitter voltage	V_{CEO}	150	V
Emitter to base voltage	V_{EBO}	6	V
Collector current	I_C	2	A
Collector peak current	$I_{C(peak)}$	5	A
Collector power dissipation	P_C	1.5	W
	P_C*[1]	20	
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–45 to +150	°C

Note: 1. Value at T_C = 25°C.

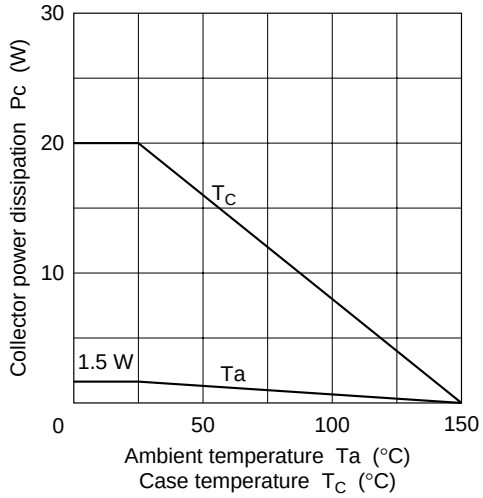
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	150	—	—	V	I_C = 50 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	I_E = 5 mA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	1	µA	V_{CB} = 120 V, I_E = 0
DC current transfer ratio	h_{FE1}*[1]	60	—	320		V_{CE} = 4 V, I_C = 50 mA
	h_{FE2}	60	—	—		V_{CE} = 10 V, I_C = 500 mA*[2]
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	3.0	V	I_C = 500 mA, I_B = 50 mA*[2]
Base to emitter voltage	V_{BE}	—	—	1.0	V	V_{CE} = 4 V, I_C = 50 mA

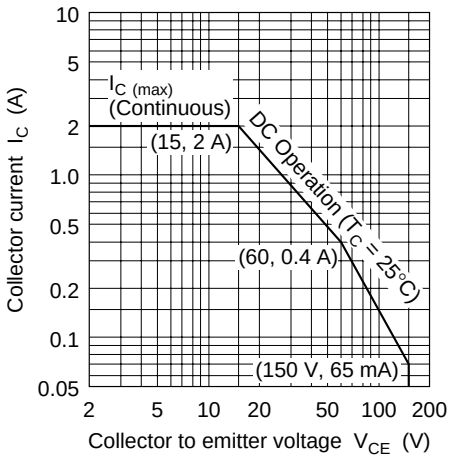
Notes: 1. The 2SD2337 is grouped by h_{FE1} as follows.
2. Pulse test.

B	C	D
60 to 120	100 to 200	160 to 320

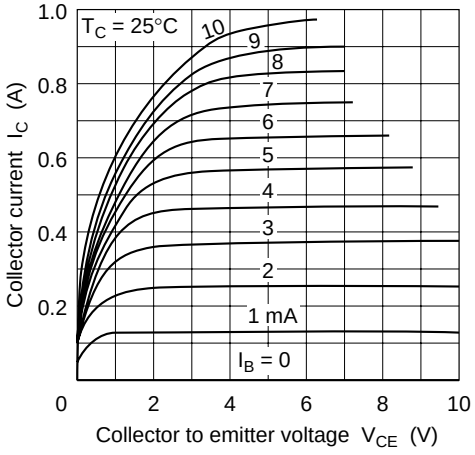
Maximum Collector Dissipation Curve



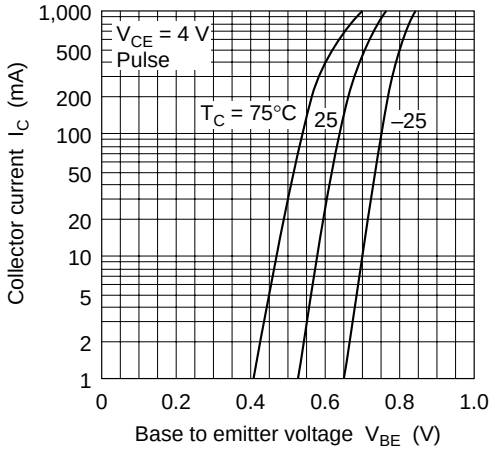
Area of Safe Operation

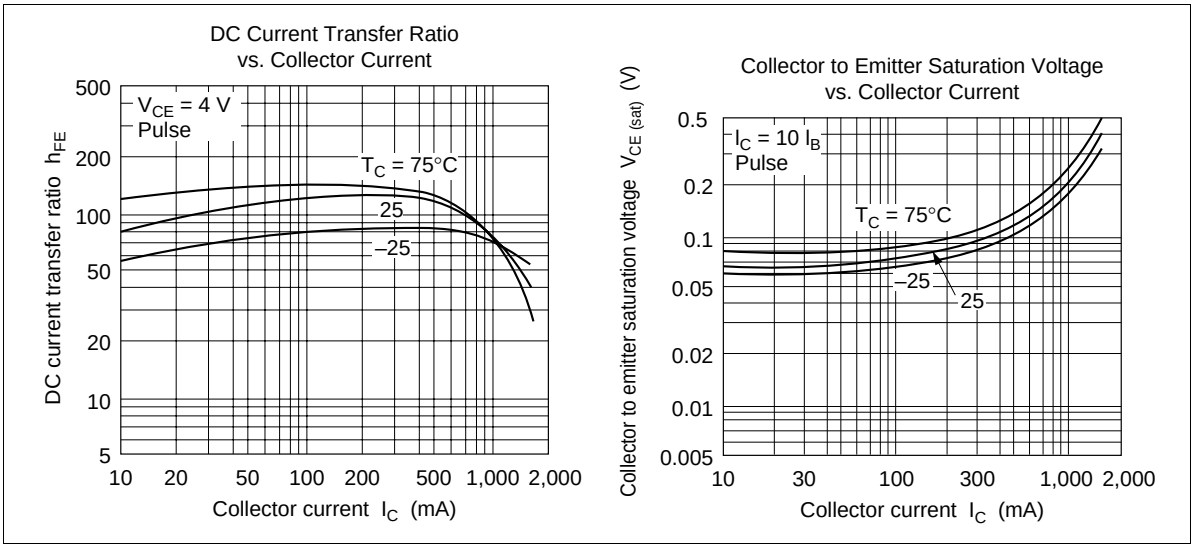


Typical Output Characteristics



Typical Transfer Characteristics




DC Current Transfer Ratio
vs. Collector Current
DC current transfer ratio h_{FE}
500
200
100
50
20
10
5
V_{CE} = 4 V
Pulse
T_C = 75°C
25
–25
10
20
50
100
200
500
1,000
2,000
Collector current I_C (mA)
Collector to Emitter Saturation Voltage
vs. Collector Current
Collector to emitter saturation voltage $V_{CE (sat)}$ (V)
0.5
0.2
0.1
0.05
0.02
0.01
0.005
I_C = 10 I_B
Pulse
T_C = 75°C
–25
25
10
30
100
300
1,000
2,000
Collector current I_C (mA)

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