2SD2337

Silicon NPN Triple Diffused

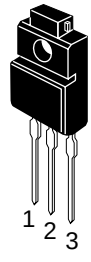
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Application

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

Outline

TO-220FM



1. Base
2. Collector
3. Emitter

Hitachi semiconductor

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.

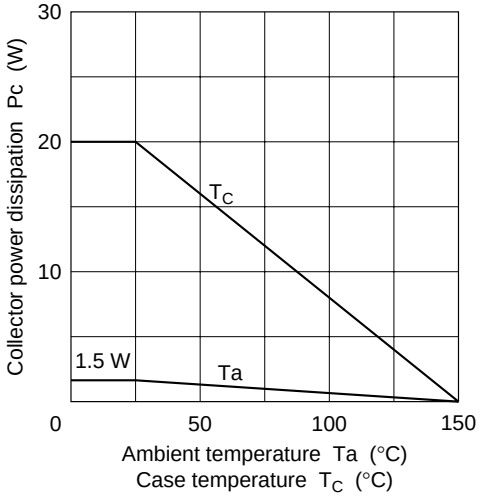
Electrical Characteristics (Ta = 25°C)

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

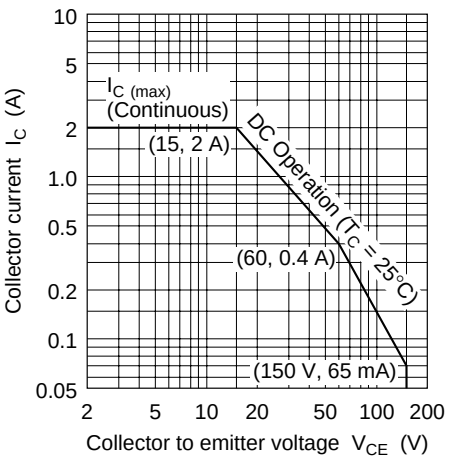
Notes: 1. The 2SD2337 is grouped by h_{FE1} as follows.
2. Pulse test.

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

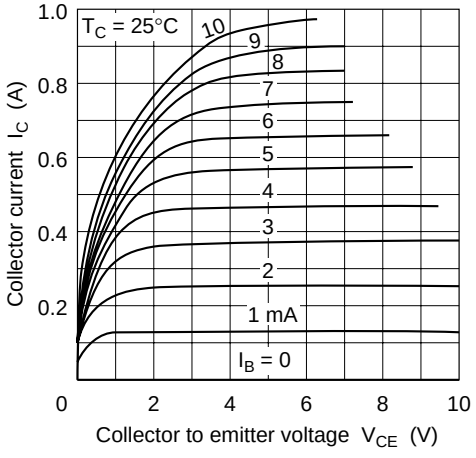
Maximum Collector Dissipation Curve



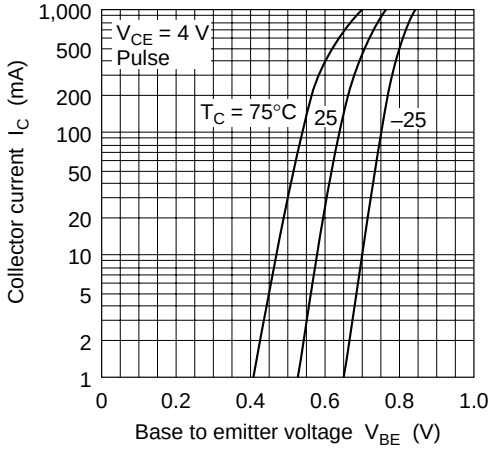
Area of Safe Operation

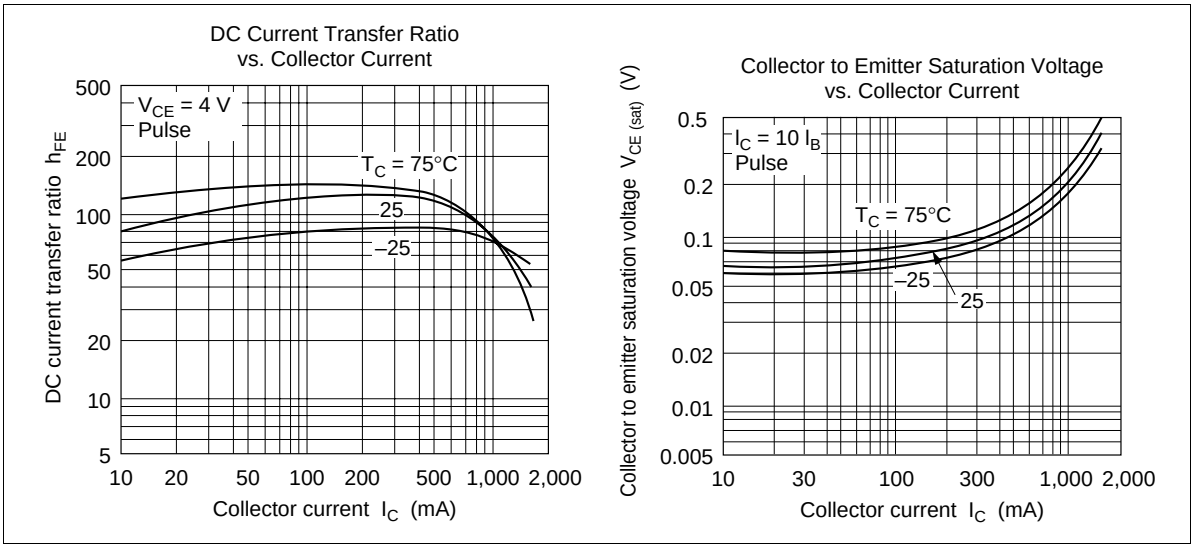


Typical Output Characteristics

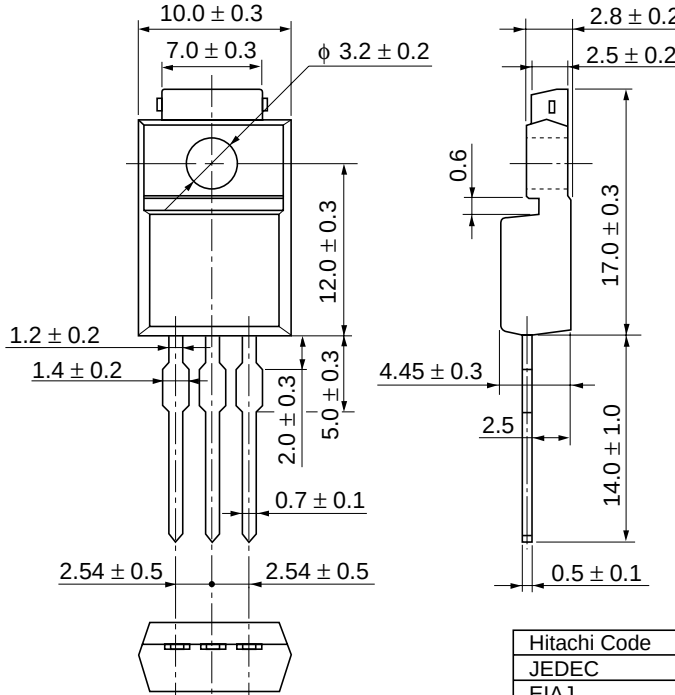


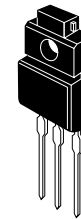
Typical Transfer Characteristics




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)

Unit: mm





Hitachi Code	TO-220FM
JEDEC	—
EIAJ	Conforms
Weight (reference value)	1.8 g

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HITACHI

Hitachi, Ltd.
Semiconductor & Integrated Circuits.
Nippon Bldg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokyo 100-0004, Japan
Tel: Tokyo (03) 3270-2111 Fax: (03) 3270-5109

URL
NorthAmerica : http:semiconductor.hitachi.com/
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For further information write to:

Hitachi Semiconductor
(America) Inc.
179 East Tasman Drive,
San Jose,CA 95134
Tel: <1> (408) 433-1990
Fax: <1>(408) 433-0223

Hitachi Europe GmbH
Electronic components Group
Dornacher Straße 3
D-85622 Feldkirchen, Munich
Germany
Tel: <49> (89) 9 9180-0
Fax: <49> (89) 9 29 30 00

Hitachi Europe Ltd.
Electronic Components Group.
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA, United Kingdom
Tel: <44> (1628) 585000
Fax: <44> (1628) 778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 049318
Tel: 535-2100
Fax: 535-1533

Hitachi Asia Ltd.
Taipei Branch Office
3F, Hung Kuo Building. No.167,
Tun-Hwa North Road, Taipei (105)
Tel: <886> (2) 2718-3666
Fax: <886> (2) 2718-8180

Hitachi Asia (Hong Kong) Ltd.
Group III (Electronic Components)
7/F., North Tower, World Finance Centre,
Harbour City, Canton Road, Tsim Sha Tsui,
Kowloon, Hong Kong
Tel: <852> (2) 735 9218
Fax: <852> (2) 730 0281
Telex: 40815 HITEC HX

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