2SD2337

Silicon NPN Triple Diffused

HITACHI

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

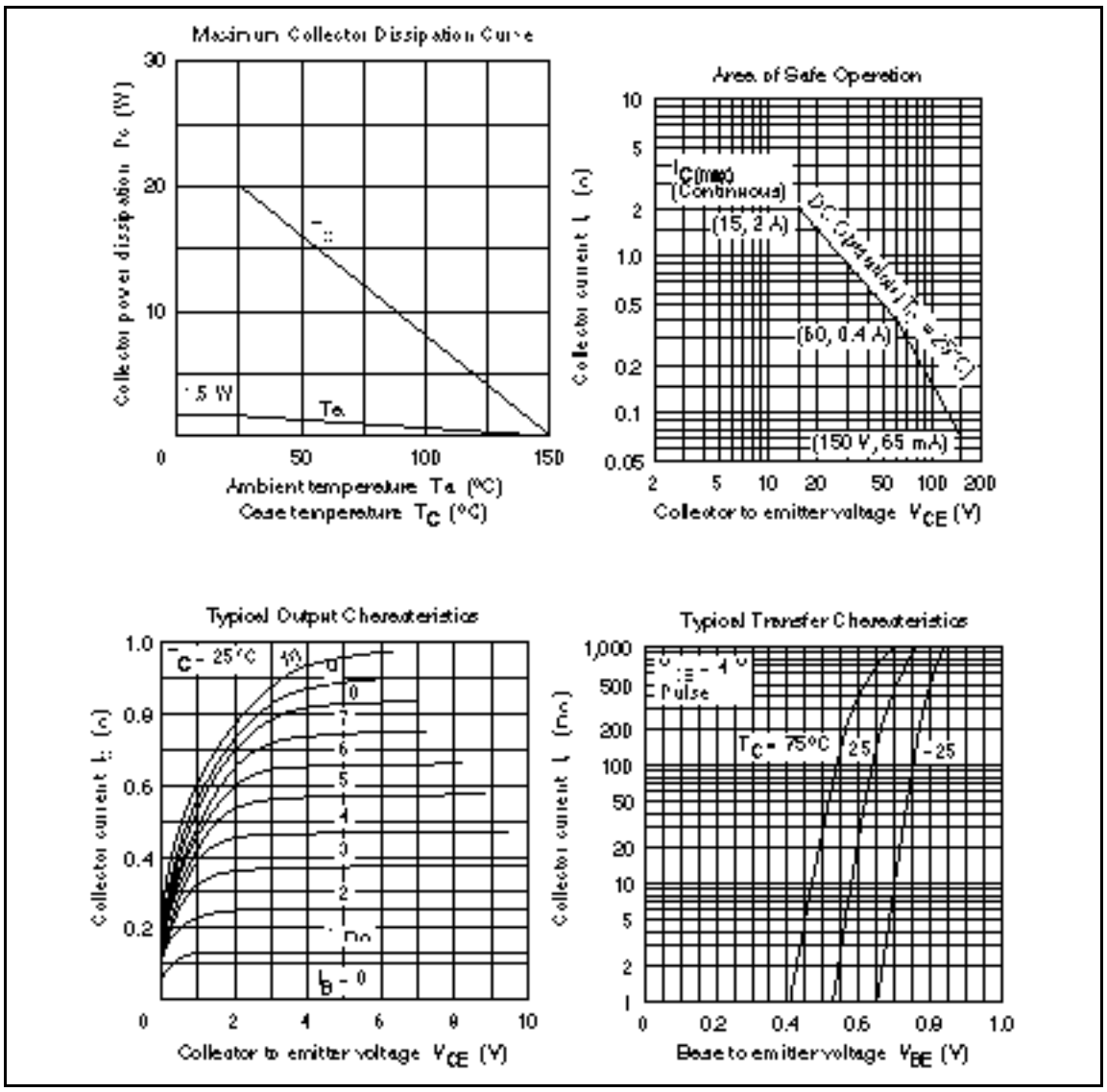
Note: 1. Value at T_C = 25°C.

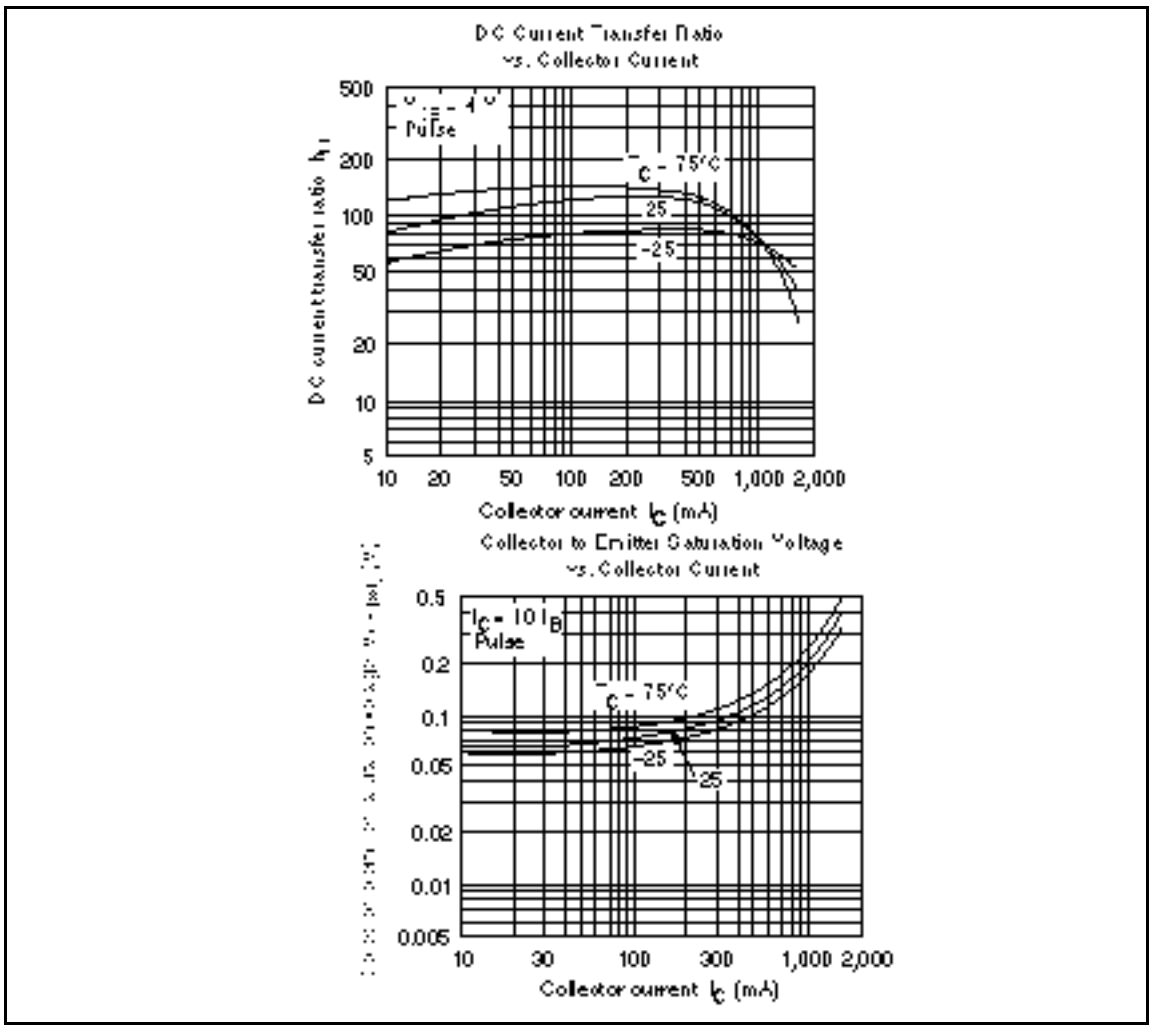
Electrical Characteristics (Ta = 25°C)

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
Collector power dissipation Pc (W)
30
20
10
0
50
100
150
1.5 W
Ta
Ambient temperature Ta (°C)
Case temperature Tc (°C)
Area of Safe Operation
Collector current Ic (A)
10
5
2
1.0
0.5
0.2
0.1
0.05
2
5
10
20
50
100
200
Ic(max)
(Continuous)
(15, 2 A)
(50, 0.4 A)
(150 V, 65 mA)
Collector to emitter voltage VCE (V)
Typical Output Characteristics
Collector current Ic (A)
1.0
0.8
0.6
0.4
0.2
0
2
4
6
8
10
Tc = 25°C
IB = 0
Collector to emitter voltage VCE (V)
Typical Transfer Characteristics
Collector current Ic (mA)
1,000
500
200
100
50
20
10
5
2
1
0
0.2
0.4
0.6
0.8
1.0
Pulse
Tc = 75°C
25
–25
Base to emitter voltage VBE (V)


DC Current Transfer Ratio
vs. Collector Current
Pulse
75°C
25
−25
DC current transfer ratio h_{FE}
Collector current I_C (mA)
Collector to Emitter Saturation Voltage
vs. Collector Current
$I_C = 10 I_B$
Pulse
75°C
−25
25
Collector current I_C (mA)

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HITACHI

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

For further information write to:

Hitachi America, Ltd.
Semiconductor & IC Div.
2000 Sierra Point Parkway
Brisbane, CA. 94005-1835
U.S.A.
Tel: 415-589-8300
Fax: 415-583-4207

Hitachi Europe GmbH
Electronic Components Group
Continental Europe
Dornacher Straße 3
D-85622 Feldkirchen
München
Tel: 089-9 91 80-0
Fax: 089-9 29 30 00

Hitachi Europe Ltd.
Electronic Components Div.
Northern Europe Headquarters
Whitebrook Park
Lower Cookham Road
Maidenhead
Berkshire SL6 8YA
United Kingdom
Tel: 0628-585000
Fax: 0628-778322

Hitachi Asia Pte. Ltd.
16 Collyer Quay #20-00
Hitachi Tower
Singapore 0104
Tel: 535-2100
Fax: 535-1533

Hitachi Asia (Hong Kong) Ltd.
Unit 706, North Tower,
World Finance Centre,
Harbour City, Canton Road
Tsim Sha Tsui, Kowloon
Hong Kong
Tel: 27359218
Fax: 27306071