2SC2396, 2SC2543, 2SC2544

Silicon NPN Epitaxial

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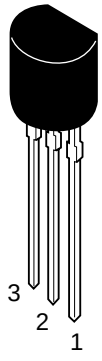
Application

- Low frequency amplifier
- Complementary pair with 2SA1025, 2SA1081 and 2SA1082

Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	2SC2396	2SC2543	2SC2544	Unit
Collector to base voltage	V_{CBO}	60	90	120	V
Collector to emitter voltage	V_{CEO}	60	90	120	V
Emitter to base voltage	V_{EBO}	5	5	5	V
Collector current	I_C	100	100	100	mA
Emitter current	I_E	–100	–100	–100	mA
Collector power dissipation	P_C	400	400	400	mW
Junction temperature	Tj	150	150	150	°C
Storage temperature	Tstg	–55 to +150	–55 to +150	–55 to +150	°C

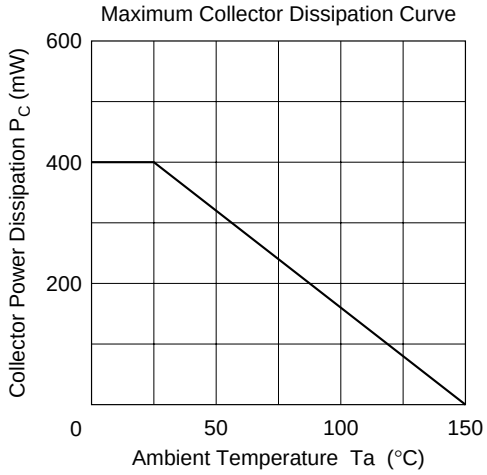
Electrical Characteristics (Ta = 25°C)

		2SC2396			2SC2543			2SC2544				
Item	Symbol	Min	Typ	Max	Min	Typ	Max	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	60	—	—	90	—	—	120	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	60	—	—	90	—	—	120	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	5	—	—	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.1	—	—	0.1	—	—	0.1	µA	V_{CB} = 50 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	0.1	—	—	0.1	—	—	0.1	µA	V_{EB} = 2 V, I_C = 0
DC current transfer ratio	h_{FE}*1	250	—	1200	250	—	1200	250	—	800		V_{CE} = 12 V, I_C = 2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.2	—	—	0.2	—	—	0.2	V	I_C = 10 mA, I_B = 1 mA
Base to emitter voltage	V_{BE}	—	0.6	—	—	0.6	—	—	0.6	—	V	V_{CE} = 12 V, I_C = 2 mA
Gain bandwidth product	f_T	—	90	—	—	90	—	—	90	—	MHz	V_{CE} = 12 V, I_C = 2 mA
Collector output capacitance	Cob	—	3.0	—	—	3.0	—	—	3.0	—	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz

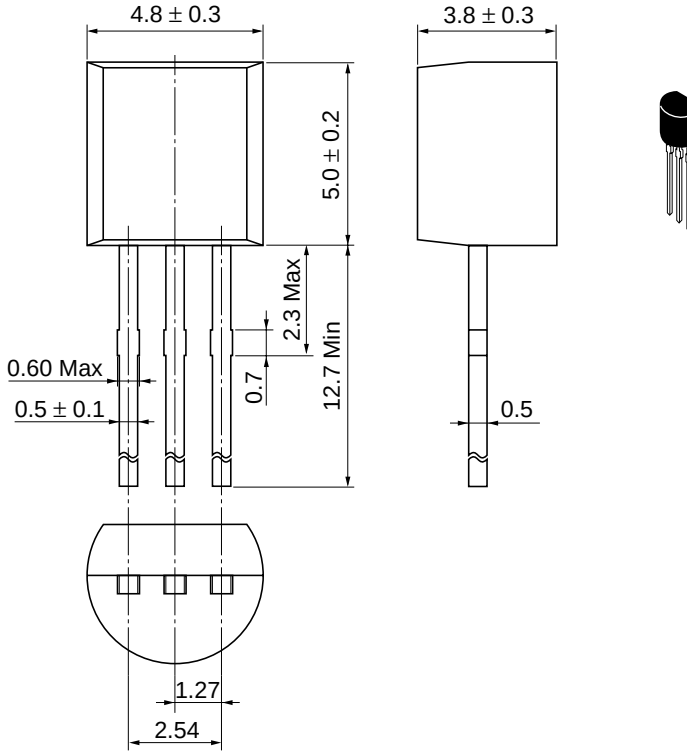
Note: 1. The 2SC2396, 2SC2543 and 2SC2544 are grouped by h_{FE1} as follows.

	D	E	F
2SC2396, 2SC2543	250 to 500	400 to 800	600 to 1200
2SC2544	250 to 500	400 to 800	—

See characteristic curves of 2SC2545, 2SC2546 and 2SC2547.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (mW)
600
400
200
0
50
100
150
Ambient Temperature Ta (°C)

Unit: mm



Hitachi Code	TO-92 (1)
JEDEC	Conforms
EIAJ	Conforms
Weight (reference value)	0.25 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

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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 Stra§e 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