## Silicon PNP Epitaxial

# HITACHI

#### **Application**

Low frequency amplifier

#### **Outline**

MPAK

3
1. Emitter
2. Base
3. Collector



#### Absolute Maximum Ratings ( $Ta = 25^{\circ}C$ )

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	<b>-90</b>	V
Collector to emitter voltage	$V_{\text{CEO}}$	-90	V
Emitter to base voltage	$V_{EBO}$	<b>–</b> 5	V
Collector current	I <sub>c</sub>	-100	mA
Collector power dissipation	P <sub>c</sub>	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

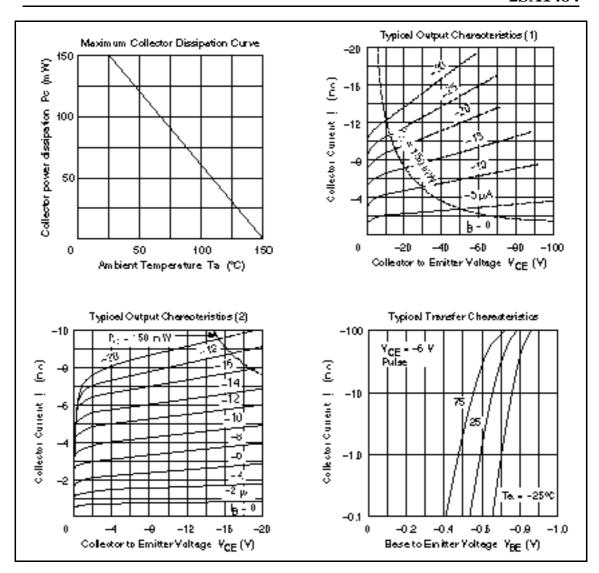
#### **Electrical Characteristics** ( $Ta = 25^{\circ}C$ )

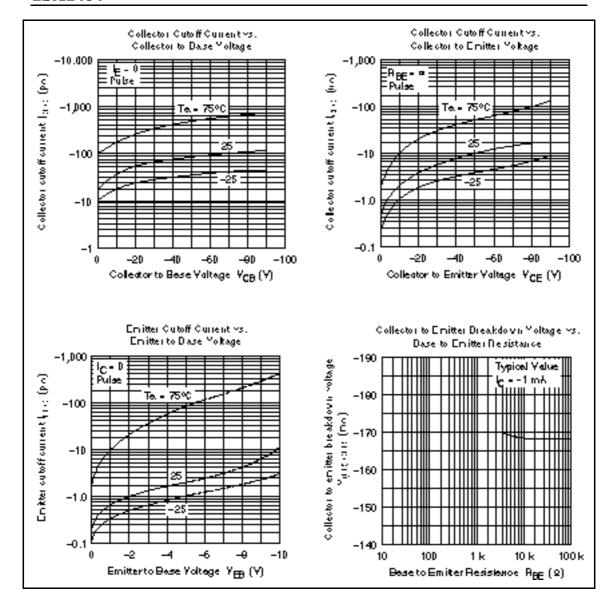
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-90	_	_	V	$I_{c} = -10 \ \mu A, \ I_{e} = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-90	_	_	V	$I_C = -1 \text{ mA}, R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	<b>–</b> 5	_	_	V	$I_{E} = -10 \ \mu A, \ I_{C} = 0$
Collector cutoff current	I <sub>CBO</sub>	_	_	-0.1	μΑ	$V_{CB} = -70 \text{ V}, I_{E} = 0$
Emitter cutoff current	I <sub>EBO</sub>	_	_	-0.1	μΑ	$V_{EB} = -2 \text{ V}, I_{C} = 0$
DC current transfer ratio	h <sub>FE</sub> *1	250	_	800		$V_{CE} = -12 \text{ V}, I_{C} = -2 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	-0.15	V	$I_{\rm C} = -10 \text{ mA}, I_{\rm B} = -1 \text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(sat)}$	_	_	-1.0	V	$I_{\rm C} = -10 \text{ mA}, I_{\rm B} = -1 \text{ mA}^{*2}$

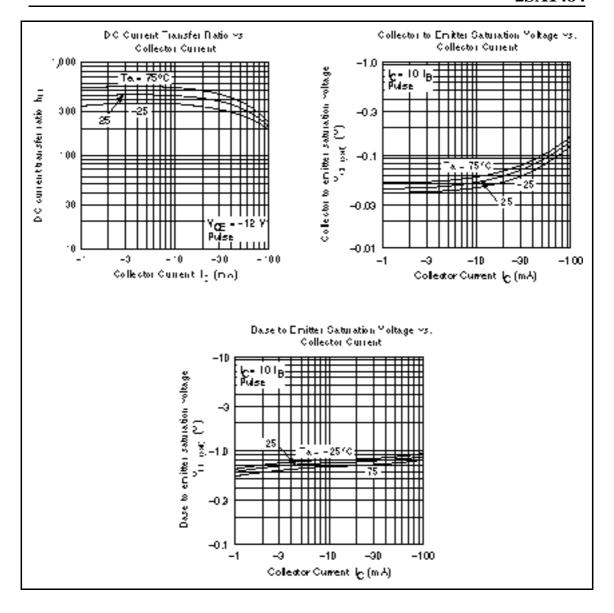
Notes: 1. The 2SA1484 is grouped by  $h_{\rm FE}$  as follows.

2. Pulse test

Grade	D	E
Mark	IRD	IRE
h <sub>FE</sub>	250 to 500	400 to 800







When using this document, keep the following in mind:

- 1. This document may, wholly or partially, be subject to change without notice.
- 2. All rights are reserved: No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without Hitachi's permission.
- 3. Hitachi will not be held responsible for any damage to the user that may result from accidents or any other reasons during operation of the user's unit according to this document.
- 4. Circuitry and other examples described herein are meant merely to indicate the characteristics and performance of Hitachi's semiconductor products. Hitachi assumes no responsibility for any intellectual property claims or other problems that may result from applications based on the examples described herein.
- 5. No license is granted by implication or otherwise under any patents or other rights of any third party or Hitachi, Ltd.
- 6. MEDICAL APPLICATIONS: Hitachi's products are not authorized for use in MEDICAL APPLICATIONS without the written consent of the appropriate officer of Hitachi's sales company. Such use includes, but is not limited to, use in life support systems. Buyers of Hitachi's products are requested to notify the relevant Hitachi sales offices when planning to use the products in MEDICAL APPLICATIONS.

# HITACHI

Hitachi, Ltd.
Semiconductor & IC Div.
Nepon Bidg., 2-6-2, Ohte-machi, Chiyoda-ku, Tokiyo 100, Japan
Tet Tokyo (03, 3270-2414
Fex: (03, 3270-5409

For Author in formation write to:

Hilbechi Americe, Ltd. Semiconductor & IC Div. 2000 Sierre Point Perkwey Briebene, CA. 94005-1835 U.S.A.

Tet 415-589-8300 Fex: 415-583-4207 Hitechi Burope GmbH
Bedronic Componente Group
Cartinertal Burope
Darnecher Streße 3
D-85622 Feldkirchen
München
Tet 089-9 94 80-0
Fex: 089-9 29 30 00

Hitachi Burope Ltd.
Bedronic Componenta Dw.
Northern Burope Headquartera
Whitebrook Park
Lower Cook ham Road
Heidenhead
Barkshire SL68YA
Urited Kingdom
Tet 0628-858000
Fex: 0628-778322

Hitachi Asia Pta, Ltd 45 Collyer Quay \$20-00 Hitachi Tower Singapore 0404 Tet 535-2400 Fex: 535-4533

Hischi Asia (Hong Kong) Ltd. Unit 705, North Towar, World Finance Centre, Harbour City, Centon Road Taim She Taul, Kowloon Hong Kong Tet 27:350218 Fax: 27:30607 f