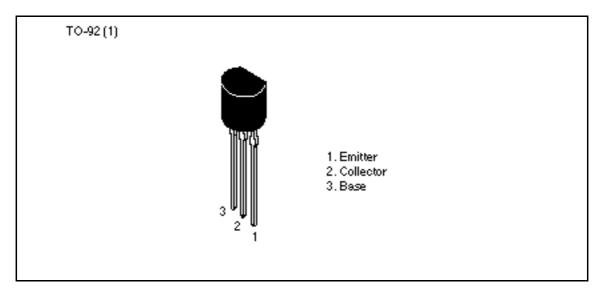
Silicon PNP Epitaxial

# HITACHI

## Application

Low frequency amplifier

#### Outline





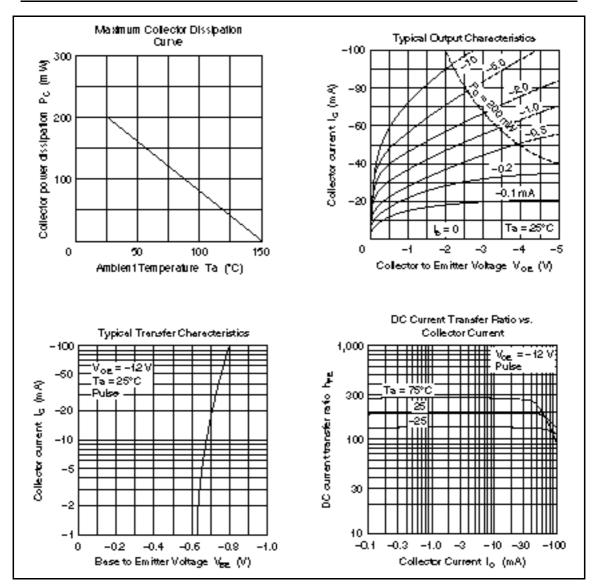
# **Absolute Maximum Ratings** (Ta = $25^{\circ}$ C)

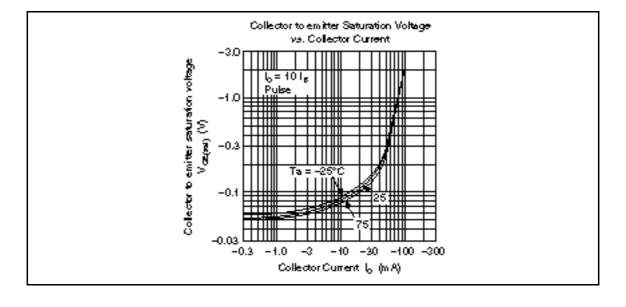
Item	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	-200	V
Collector to emitter voltage	V <sub>CEO</sub>	-200	V
Emitter to base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>c</sub>	-100	mA
Collector power dissipation	P <sub>c</sub>	200	mW
Junction temperature	Tj	150	°C
Storage 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	$V_{(BR)CBO}$	-200	_	—	V	$I_{c} = -10 \ \mu A, \ I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-200	_	_	V	$I_c = -0.5$ mA, $R_{BE} =$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-5	_	_	V	$I_{\rm E} = -10 \ \mu A, \ I_{\rm C} = 0$
Collector cutoff current	I <sub>CEO</sub>	_	—	-500	μA	$V_{ce} = -200 \text{ V}, \text{ R}_{be} =$
DC current transfer ratio	h <sub>FE</sub>	100	—	250		$V_{ce} = -12 \text{ V}, I_c = -2 \text{ mA}^{*1}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	-0.5	V	$I_{c} = -30 \text{ mA}, I_{B} = -3 \text{ mA}^{*1}$
Base to emitter voltage	$V_{BE}$	—	—	-1.0	V	$V_{ce} = -12 \text{ V}, \text{ I}_{c} = -2 \text{ mA}^{*1}$
Noto: 1 Dulas test						

Note: 1. Pulse test





HITACHI

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 DV. Nepon Bidg, 2-5-2, Ohte-mach, Chiyoda-ku, Tokyo 100, Japan Tet Tokyo (03, 3270-2111 Fax (03, 3270-5109

For Author in forms Ion write to : Hischi America, Ud Semiconductor & IC DV. 2000 Sierre Point Pertwey Briebene, CA. 94005-4835 U S.Å Tet 415-583-8300 Fax: 415-583-4207

Hitschi Burope GmbH Bedronic Components Group Cartinertal Burope Danscher Straße 3 D-85522 Fieldkirchen Minchen Tet 083-9 94 80-0 Fex 083-9 29 30 00 Hitschi Europe Ltd. Bectronic Components Div. Northern Burge Hesdguerters Whitsbrock Ferk Lower Cook hem Roed Neidenhesd Berkshire SL6SYA United Kingdom Tet 0628-355000 Fex 0628-778222 Hitschi Asia Pte. Ltd 45 Collyer Quey \$20-00 Hitschi Tower Singspore 0404 Tet 535-2400 Fex: 535-4533

Hitschi Asia (Hong Kong) Ltd. Unit 705, North Towar, World Finance Cantre, Herbour City, Carton Road Taim Sha Tau, Kowloon Hong Kong Tet 27350218 Fax: 27306074

#### HITACHI