# 2SC2462

### Silicon NPN Epitaxial

# **HITACHI**

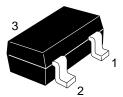
ADE-208-1063 (Z) 1st. Edition Mar. 2001

### Application

Low frequency amplifier

#### Outline

**MPAK** 



- 1. Emitter
- 2. Base
- 3. Collector



### 2SC2462

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

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{\text{CBO}}$	50	V
Collector to emitter voltage	$V_{\text{CEO}}$	40	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	I <sub>c</sub>	100	mA
Emitter current	I <sub>E</sub>	-100	mA
Collector power dissipation	P <sub>c</sub>	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

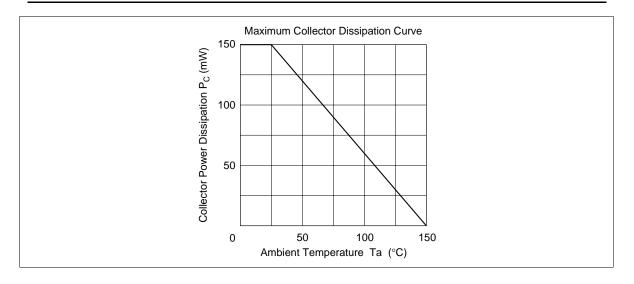
### **Electrical Characteristics** ( $Ta = 25^{\circ}C$ )

Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	50	_	_	V	$I_{c} = 10 \ \mu A, \ I_{E} = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	40	_	_	V	$I_{C}$ = 1 mA, $R_{BE}$ = $\infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	_	_	V	$I_{E} = 10 \ \mu A, \ I_{C} = 0$
Collector cutoff current	I <sub>CBO</sub>	_	_	0.5	μΑ	$V_{CB} = 30 \text{ V}, I_{E} = 0$
Emitter cutoff current	$I_{EBO}$	_	_	0.5	μΑ	$V_{EB} = 2 \text{ V}, I_{C} = 0$
DC current transfer ratio	h <sub>FE</sub> *1	100	_	500		$V_{CE} = 12 \text{ V}, I_{C} = 2 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	0.2	V	$I_{\rm C}$ = 10 mA, $I_{\rm B}$ = 1 mA
Base to emitter voltage	$V_{BE}$	_	_	0.75	V	$V_{CE} = 12 \text{ V}, I_{C} = 2 \text{ mA}$

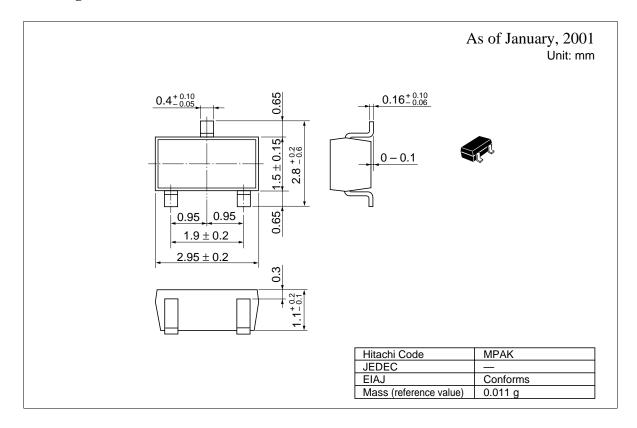
Note: 1. The 2SC2462 is grouped by  $h_{\rm FE}$  as follows.

Grade	В	С	D
Mark	LB	LC	LD
h <sub>FE</sub>	100 to 200	160 to 320	250 to 500

See characteristic curves of 2SC458 (LG).



### **Package Dimensions**



#### **Cautions**

- 1. Hitachi neither warrants nor grants licenses of any rights of Hitachi's or any third party's patent, copyright, trademark, or other intellectual property rights for information contained in this document. Hitachi bears no responsibility for problems that may arise with third party's rights, including intellectual property rights, in connection with use of the information contained in this document.
- 2. Products and product specifications may be subject to change without notice. Confirm that you have received the latest product standards or specifications before final design, purchase or use.
- 3. Hitachi makes every attempt to ensure that its products are of high quality and reliability. However, contact Hitachi's sales office before using the product in an application that demands especially high quality and reliability or where its failure or malfunction may directly threaten human life or cause risk of bodily injury, such as aerospace, aeronautics, nuclear power, combustion control, transportation, traffic, safety equipment or medical equipment for life support.
- 4. Design your application so that the product is used within the ranges guaranteed by Hitachi particularly for maximum rating, operating supply voltage range, heat radiation characteristics, installation conditions and other characteristics. Hitachi bears no responsibility for failure or damage when used beyond the guaranteed ranges. Even within the guaranteed ranges, consider normally foreseeable failure rates or failure modes in semiconductor devices and employ systemic measures such as failsafes, so that the equipment incorporating Hitachi product does not cause bodily injury, fire or other consequential damage due to operation of the Hitachi product.
- 5. This product is not designed to be radiation resistant.
- 6. No one is permitted to reproduce or duplicate, in any form, the whole or part of this document without written approval from Hitachi.
- 7. Contact Hitachi's sales office for any questions regarding this document or Hitachi semiconductor products.

## IITACE

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/ Europe http://www.hitachi-eu.com/hel/ecg Asia http://sicapac.hitachi-asia.com Japan http://www.hitachi.co.jp/Sicd/indx.htm

#### For further information write to:

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

Hitachi Europe GmbH Electronic Components Group Dornacher Straße 3 D-85622 Feldkirchen, Munich Fax: <1>(408) 433-0223 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: <886>-(2)-2718-3666 Tel: <44> (1628) 585000 Fax: <44> (1628) 585160

Hitachi Asia Ltd. Hitachi Tower 16 Collyer Quay #20-00, Singapore 049318 Tel: <65>-538-6533/538-8577

Fax: <65>-538-6933/538-3877 URL: http://www.hitachi.com.sg

Hitachi Asia Ltd (Taipei Branch Office) 4/F, No. 167, Tun Hwa North Road, Hung-Kuo Building.

Taipei (105), Taiwan Fax: <886>-(2)-2718-8180 Telex: 23222 HAS-TP URL: http://www.hitachi.com.tw

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

Hitachi Asia (Hong Kong) Ltd.

Fax: <852>-(2)-730-0281 URL: http://www.hitachi.com.hk

Copyright © Hitachi, Ltd., 2000. All rights reserved. Printed in Japan.