

To all our customers

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Renesas Technology Corp.  
Customer Support Dept.  
April 1, 2003

## Cautions

Keep safety first in your circuit designs!

1. Renesas Technology Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage.

Remember to give due consideration to safety when making your circuit designs, with appropriate measures such as (i) placement of substitutive, auxiliary circuits, (ii) use of nonflammable material or (iii) prevention against any malfunction or mishap.

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# 2SA1468

Silicon PNP Epitaxial

**RENESAS**

ADE-208-1018 (Z)

1st. Edition

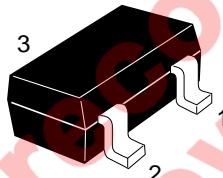
Mar. 2001

## Application

High voltage amplifier

## Outline

MPAK



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

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-180	V
Collector to emitter voltage	$V_{CEO}$	-180	V
Emitter to base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-100	mA
Collector power dissipation	$P_C$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics (Ta = 25°C)

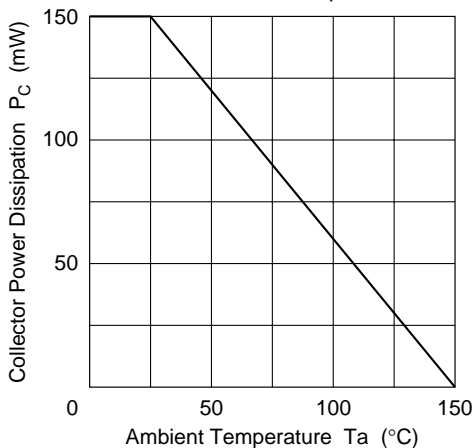
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-180	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-180	—	—	V	$I_C = -0.5 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	100	—	320		$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.5	V	$I_C = -30 \text{ mA}, I_B = -3 \text{ mA}^{*2}$
Base to emitter voltage	$V_{BE}$	—	—	-1.0	V	$V_{CE} = -12 \text{ V}, I_C = -2 \text{ mA}$
Gain bandwidth product	$f_T$	—	200	—	MHz	$V_{CE} = -12 \text{ V}, I_C = -10 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	3.5	—	pF	$V_{CB} = -10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

Notes: 1. The 2SA1468 is grouped by  $h_{FE}$  as follows.

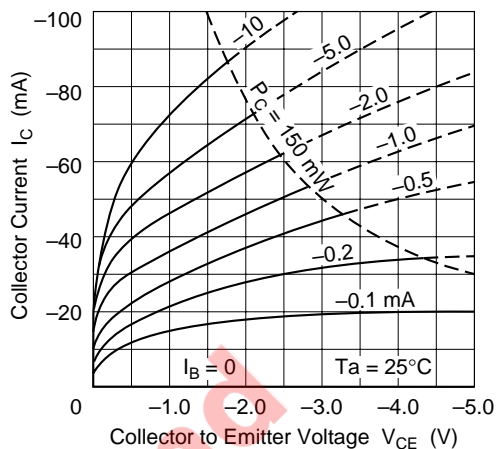
2. Pulse test

Grade	B	C
Mark	INB	INC
$h_{FE}$	100 to 200	160 to 320

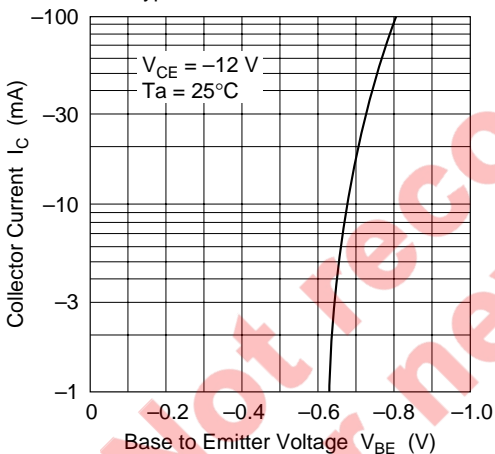
Maximum Collector Dissipation Curve



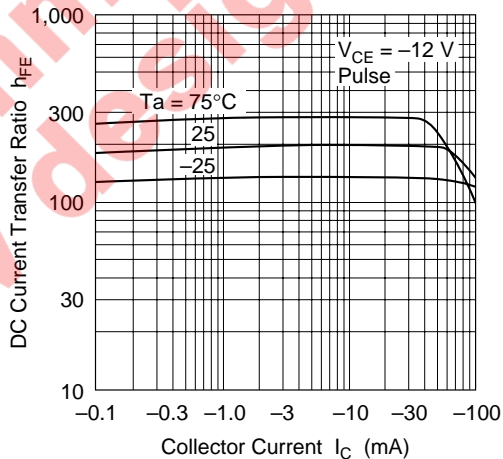
Typical Output Characteristics

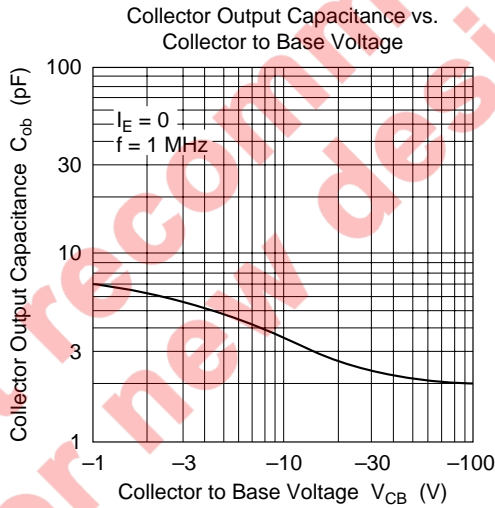
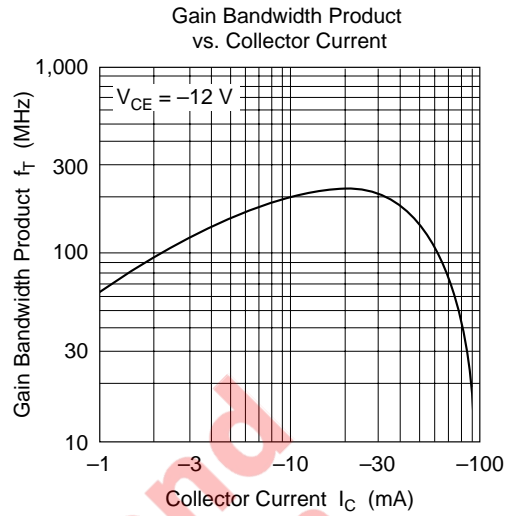
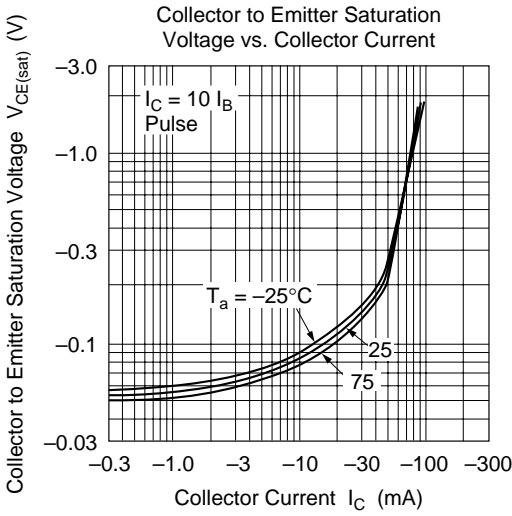


Typical Transfer Characteristics



DC Current Transfer Ratio vs. Collector Current

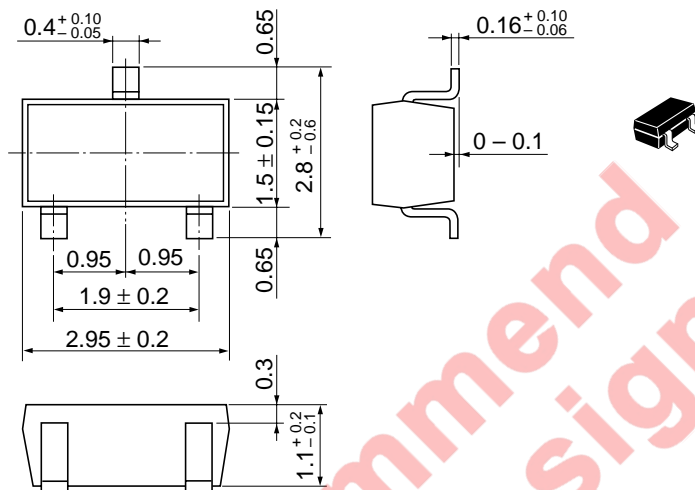




## Package Dimensions

As of January, 2001

Unit: mm



Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.011 g

## Cautions

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