

To all our customers

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

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Keep safety first in your circuit designs!

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# 2SD1489

Silicon NPN Epitaxial

**RENESAS**

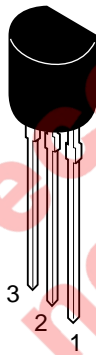
ADE-208-1156A (Z)  
2nd. Edition  
Mar. 2001

## Application

- Low frequency power amplifier

## Outline

TO-92 (1)



1. Emitter
2. Collector
3. Base

## 2SD1489

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

Item	Symbol	Ratings	Unit
Collector to base voltage	V <sub>CBO</sub>	20	V
Collector to emitter voltage	V <sub>CEO</sub>	16	V
Emitter to base voltage	V <sub>EBO</sub>	6	V
Collector current	I <sub>C</sub>	2	A
Collector power dissipation	P <sub>C</sub>	0.75	W
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

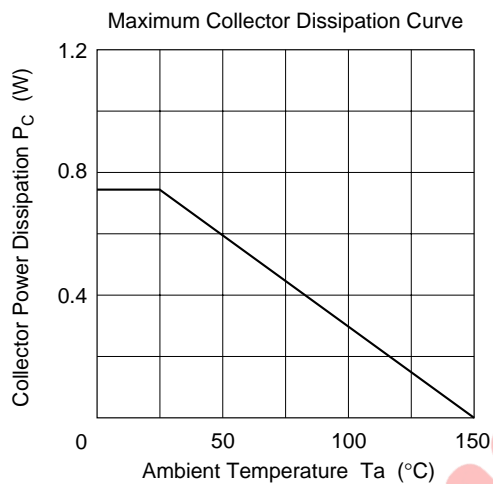
### Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	V <sub>(BR)CBO</sub>	20	—	—	V	I <sub>C</sub> = 10 μA, I <sub>E</sub> = 0
Collector to emitter breakdown voltage	V <sub>(BR)CEO</sub>	16	—	—	V	I <sub>C</sub> = 1 mA, R <sub>BE</sub> = ∞
Emitter to base breakdown voltage	V <sub>(BR)EBO</sub>	6	—	—	V	I <sub>E</sub> = 10 μA, I <sub>C</sub> = 0
Collector cutoff current	I <sub>CBO</sub>	—	—	2	μA	V <sub>CB</sub> = 16 V, I <sub>E</sub> = 0
Emitter cutoff current	I <sub>EBO</sub>	—	—	0.2	μA	V <sub>EB</sub> = 6 V, I <sub>C</sub> = 0
DC current transfer ratio	h <sub>FE</sub> *1	100	—	500		V <sub>CE</sub> = 2 V, I <sub>C</sub> = 0.1 A
Collector to emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	0.3	V	I <sub>C</sub> = 1 A, I <sub>B</sub> = 0.1 A
Gain bandwidth product	f <sub>T</sub>	—	80	—	MHz	V <sub>CE</sub> = 2 V, I <sub>C</sub> = 10 mA
Collector output capacitance	C <sub>ob</sub>	—	20	—	pF	V <sub>CB</sub> = 10 V, I <sub>E</sub> = 0, f = 1 MHz

Note: 1. The 2SD1489 is grouped by h<sub>FE</sub> as follows.

B	C	D
100 to 200	160 to 320	250 to 500

See characteristic curves of 2SD787.

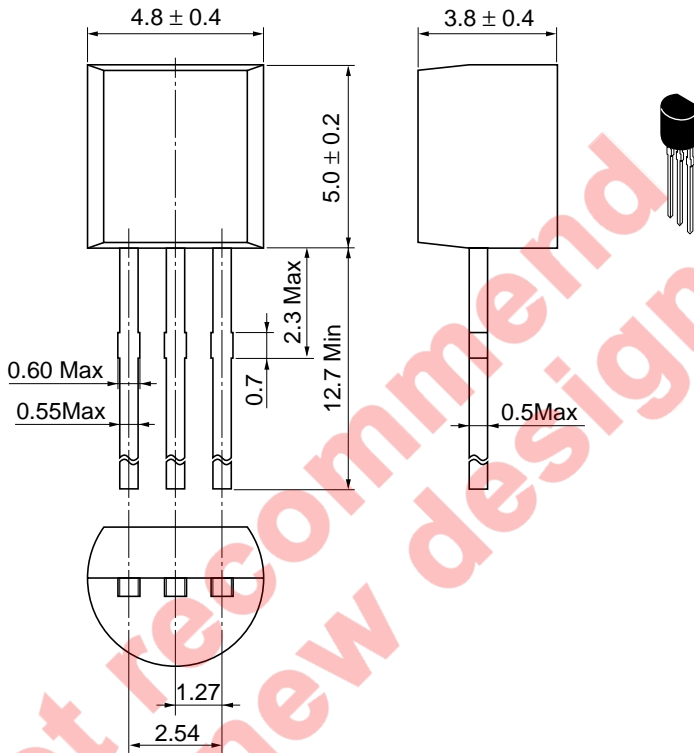


Not recommend  
for new design

Package Dimensions

As of January, 2001

Unit: mm



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

## Cautions

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