

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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# 2SB1392

Silicon PNP Triple Diffused

## RENESAS

ADE-208-872 (Z)  
1st. Edition  
September 2000

### Application

Low frequency power amplifier

### Outline

TO-220FM



1. Base
2. Collector
3. Emitter

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

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	-70	V
Collector to emitter voltage	$V_{CEO}$	-60	V
Emitter to base voltage	$V_{EBO}$	-5	V
Collector current	$I_C$	-4	A
Collector peak current	$I_{C(peak)}$	-8	A
Collector power dissipation	$P_C$	2	W
	$P_C^{*1}$	25	
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

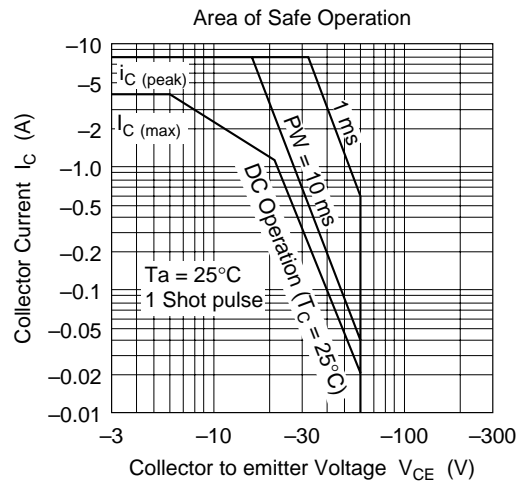
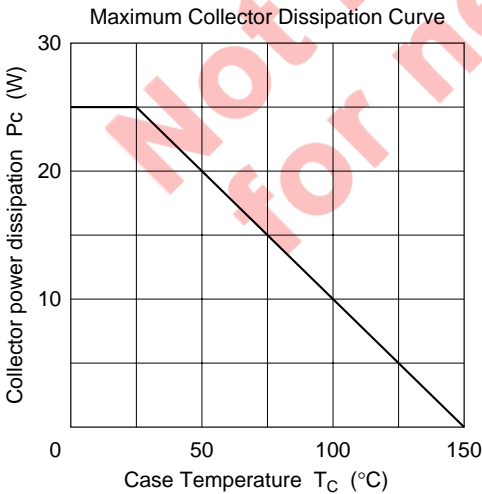
Note: 1. Value at  $T_C = 25^\circ\text{C}$ .

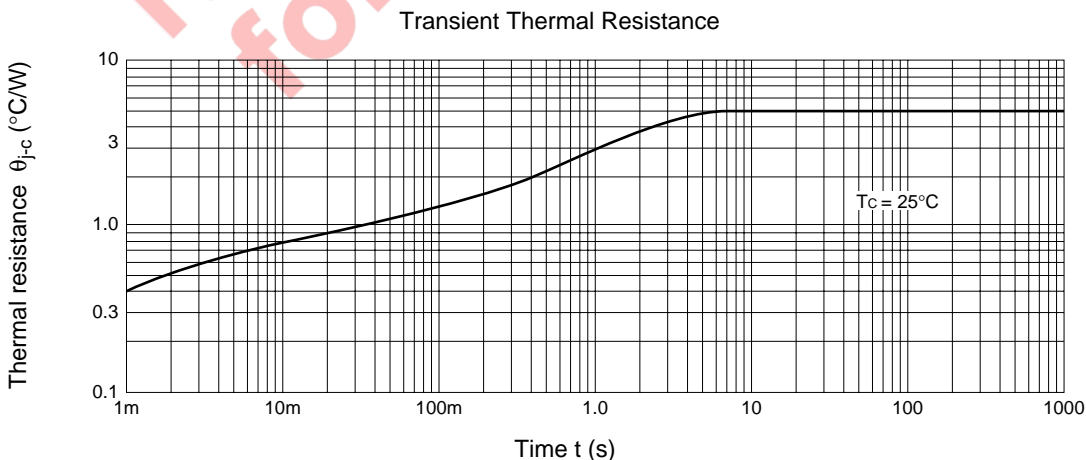
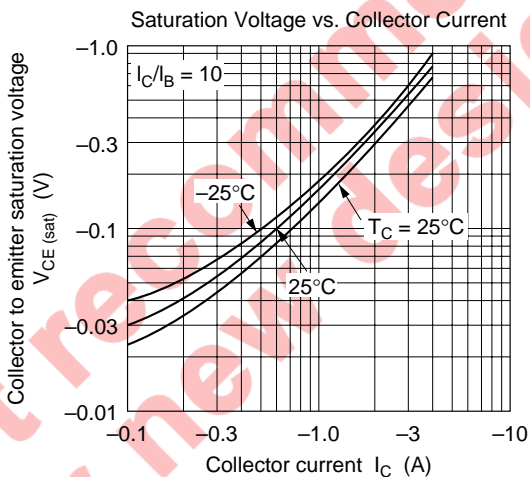
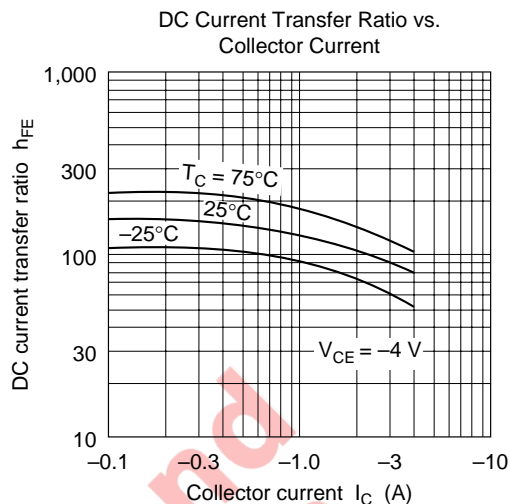
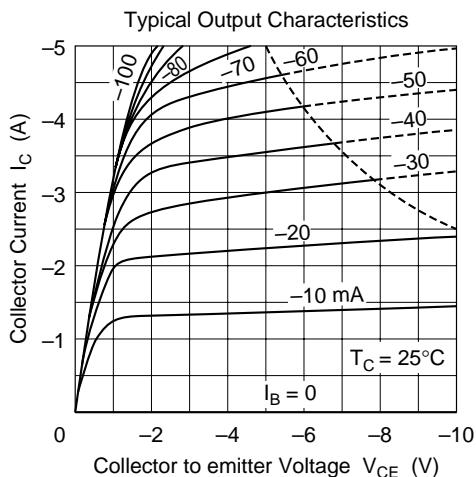
## Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	-70	—	—	V	$I_C = -10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	-60	—	—	V	$I_C = -50 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	-5	—	—	V	$I_E = -10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	-10	$\mu A$	$V_{CB} = -50 \text{ V}, I_E = 0$
	$I_{CEO}$	—	—	-10		$V_{CE} = -50 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	$h_{FE1}^{*2}$	60	—	200		$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}^{*1}$
	$h_{FE2}$	35	—	—		$V_{CE} = -4 \text{ V}, I_C = -0.1 \text{ A}^{*1}$
Base to emitter voltage	$V_{BE}$	—	—	-1.0	V	$V_{CE} = -4 \text{ V}, I_C = -1 \text{ A}^{*1}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	-1.0	V	$I_C = -2.0 \text{ A}, I_B = -0.2 \text{ A}^{*1}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	-1.2	V	$I_C = -2.0 \text{ A}, I_B = -0.2 \text{ A}^{*1}$

- Notes: 1. Pulse test.  
 2. The 2SB1392 is grouped by  $h_{FE1}$  as follows.

B	C
60 to 120	100 to 200





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