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To all our customers

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

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# 2SC5852

Silicon NPN Epitaxial Planar

**RENESAS**

ADE-208-1481 (Z)

Rev.0  
Feb. 2002

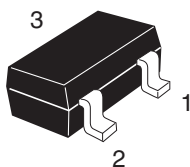
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## Features

- VHF amplifier, local oscillator

## Outline

CMPAK



1. Emitter
2. Base
3. Collector

## 2SC5852

### Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	30	V
Collector to emitter voltage	$V_{CEO}$	20	V
Emitter to base voltage	$V_{EBO}$	4	V
Collector current	$I_C$	20	mA
Collector power dissipation	$P_C^*$	150	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

\*Value on the glass epoxy board (10 mm x 10 mm x 0.7 mm)

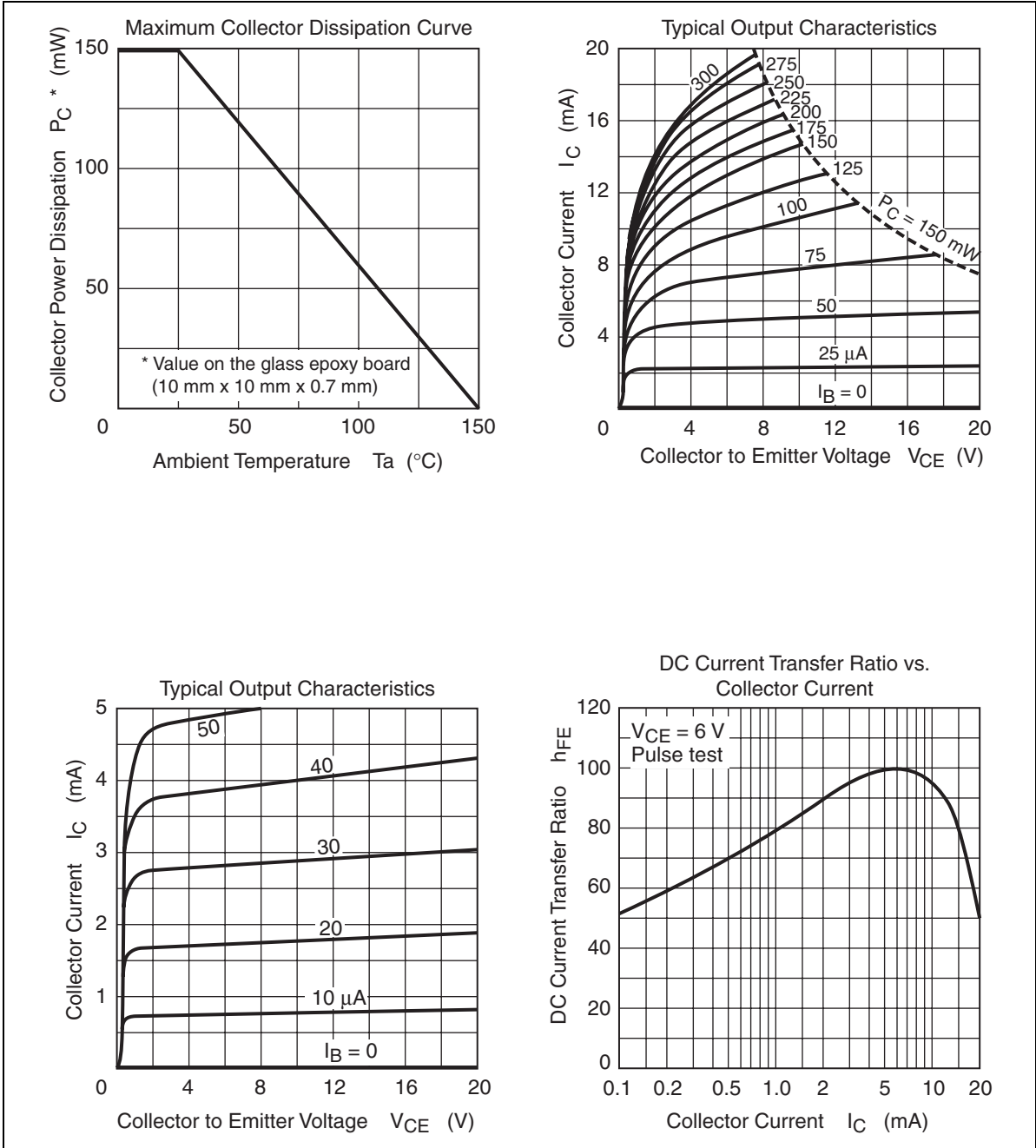
### Electrical Characteristics

(Ta = 25°C)

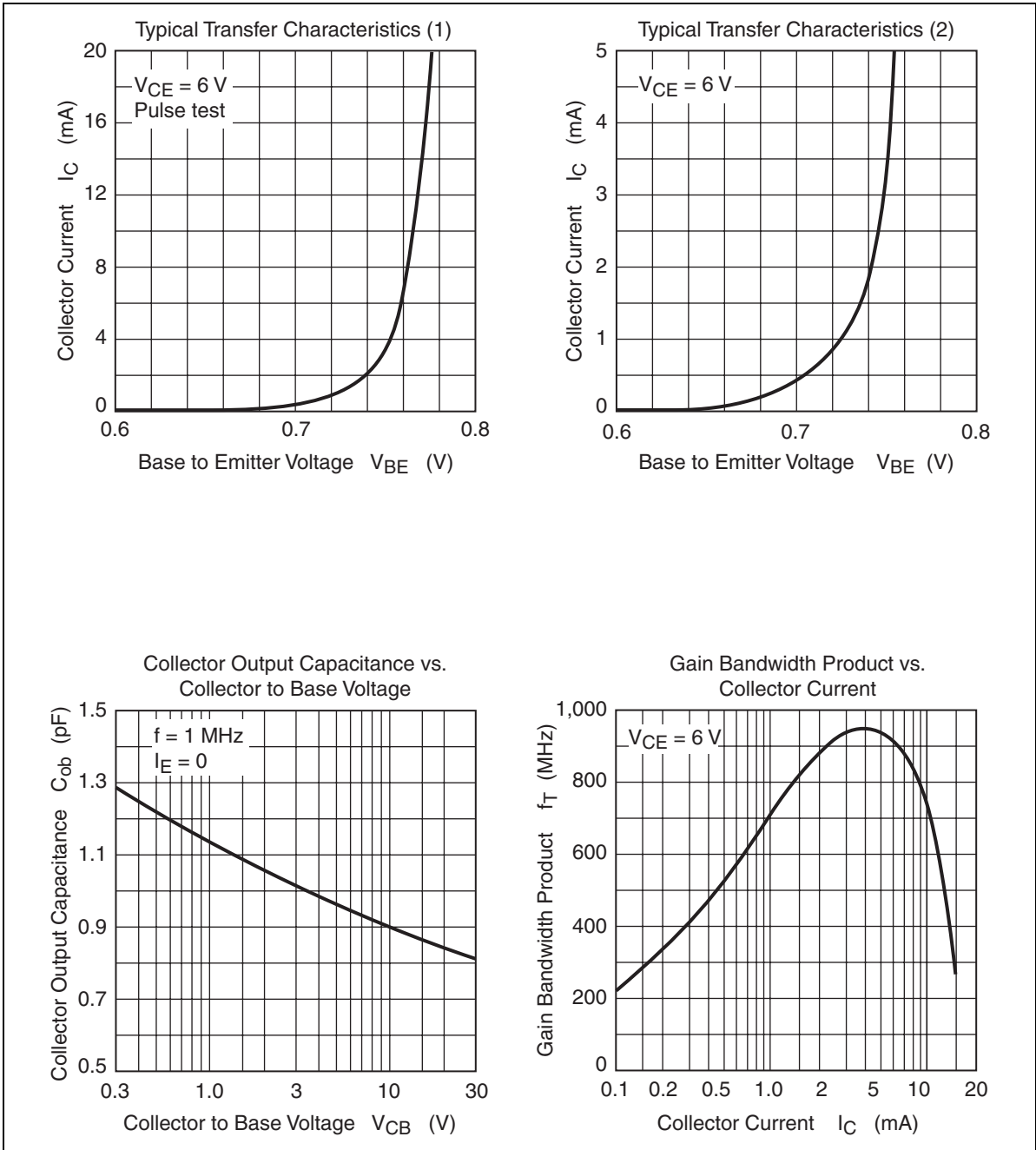
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CEO}$	—	—	0.5	$\mu A$	$V_{CE} = 10 \text{ V}, R_{BE} = \infty$
Emitter cutoff current	$I_{EBO}$	—	—	0.5	$\mu A$	$V_{EB} = 2 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	60	—	200	—	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.17	—	V	$I_C = 20 \text{ mA}, I_B = 4 \text{ mA}$
Base to emitter voltage	$V_{BE}$	—	0.72	—	V	$V_{CE} = 6 \text{ V}, I_C = 1 \text{ mA}$
Gain bandwidth product	$f_T$	—	940	—	MHz	$V_{CE} = 6 \text{ V}, I_C = 5 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	0.9	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

Notes: 1. The 2SC5852 is grouped by  $h_{FE}$  as follows.

Grade	B	C
Mark	QB	QC
$h_{FE}$	60 to 120	100 to 200

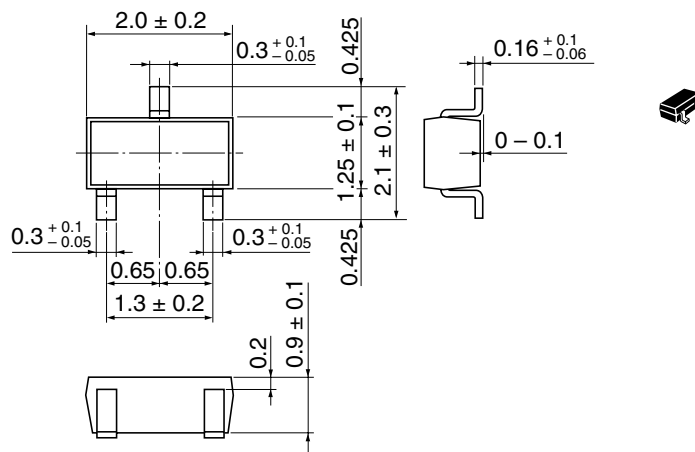


## 2SC5852



**Package Dimensions**

As of July, 2001  
Unit: mm



Hitachi Code	CMPAK
JEDEC	—
JEITA	Conforms
Mass (reference value)	0.006 g

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## 2SC5852

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