

## 2SD789

Silicon NPN Epitaxial

REJ03G0772-0300  
(Previous ADE-208-1140A)  
Rev.3.00  
Aug.10.2005

### Application

- Low frequency power amplifier
- Complementary pair with 2SB740

### Outline

RENESAS Package code: PRSS0003DC-A  
(Package name: TO-92 Mod)



1. Emitter
2. Collector
3. Base

### Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	100	V
Collector to emitter voltage	$V_{CEO}$	50	V
Emitter to base voltage	$V_{EBO}$	6	V
Collector current	$I_C$	1	A
Collector power dissipation	$P_C$	0.9	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

## Electrical Characteristics

(Ta = 25°C)

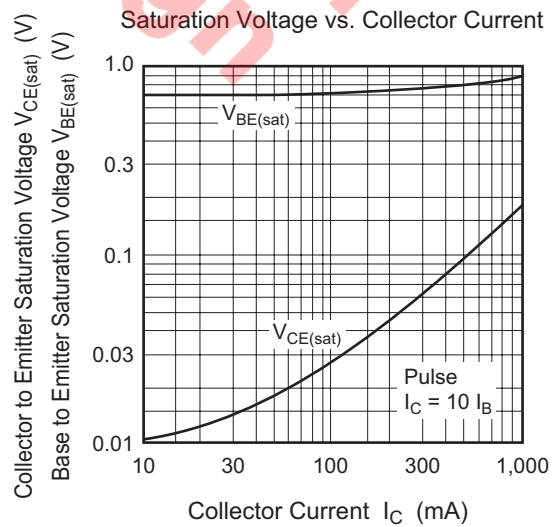
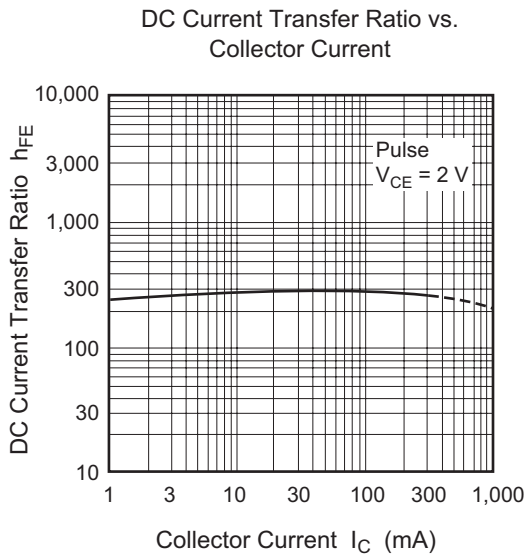
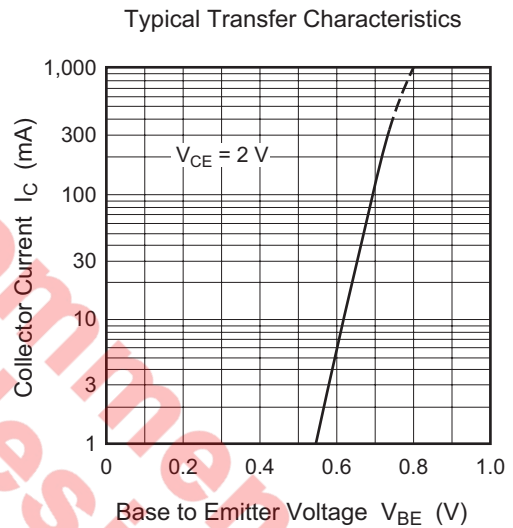
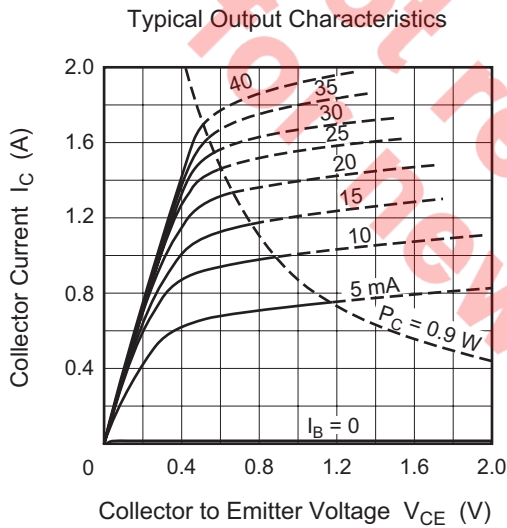
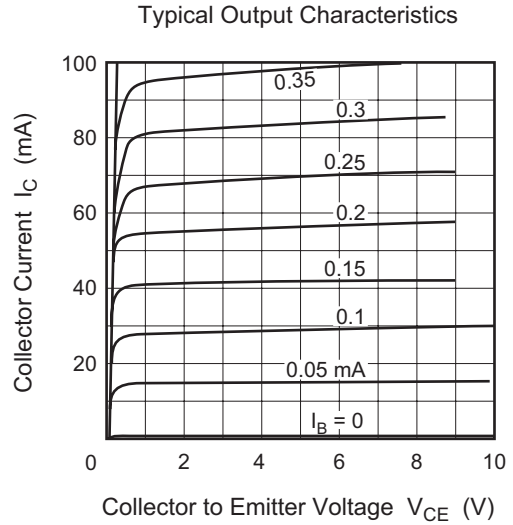
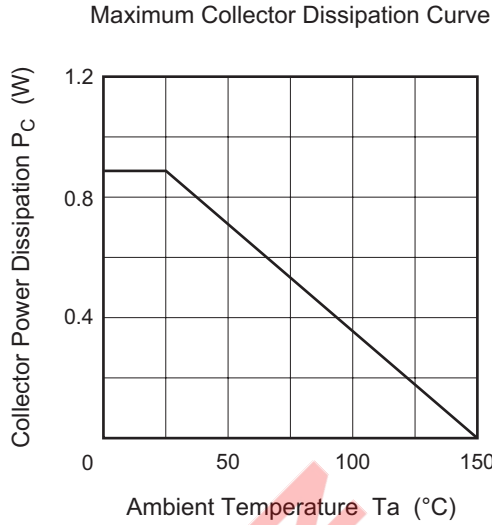
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	100	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	50	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	6	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1	$\mu A$	$V_{CB} = 80 \text{ V}, I_E = 0$
Emitter cutoff current	$I_{EBO}$	—	—	0.2	$\mu A$	$V_{EB} = 6 \text{ V}, I_C = 0$
DC current transfer ratio	$h_{FE}^{*1}$	160	—	800		$V_{CE} = 2 \text{ V}, I_C = 0.1 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C = 1 \text{ A}, I_B = 0.1 \text{ A}$
Gain bandwidth product	$f_T$	—	100	—	MHz	$V_{CE} = 2 \text{ V}, I_C = 10 \text{ mA}$
Collector output capacitance	$C_{ob}$	—	20	—	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$

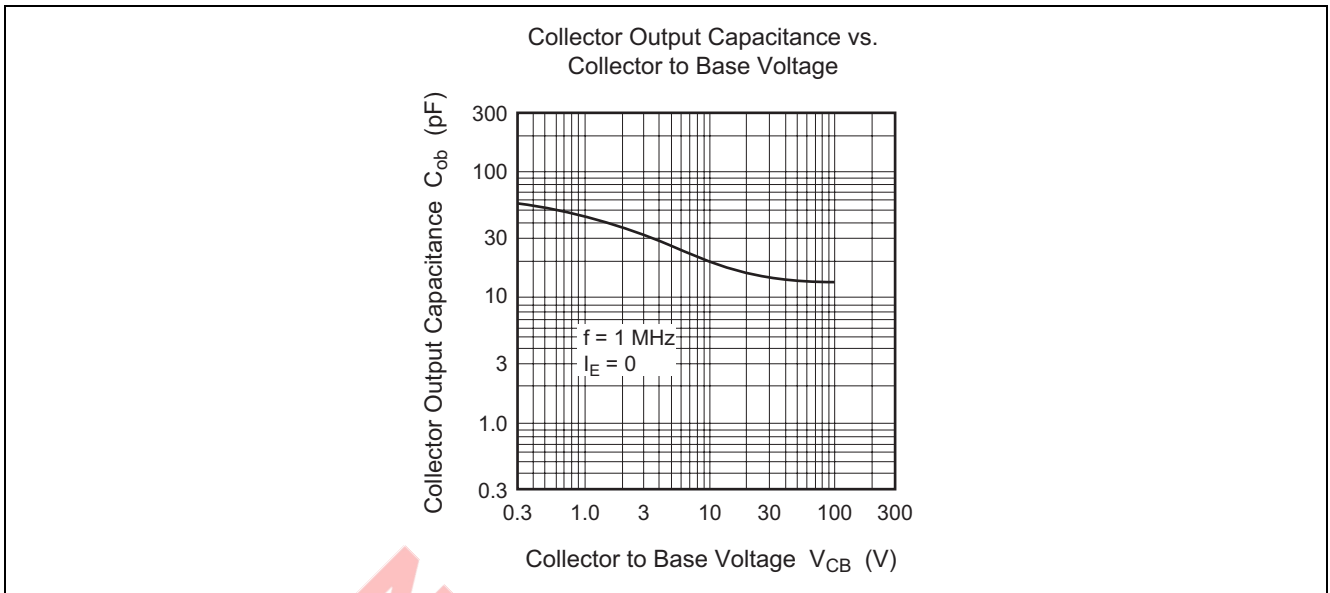
Note: 1. The 2SD789 is grouped by  $h_{FE}$  as follows.

C	D	E
160 to 320	250 to 500	400 to 800

Not recommend  
for new design

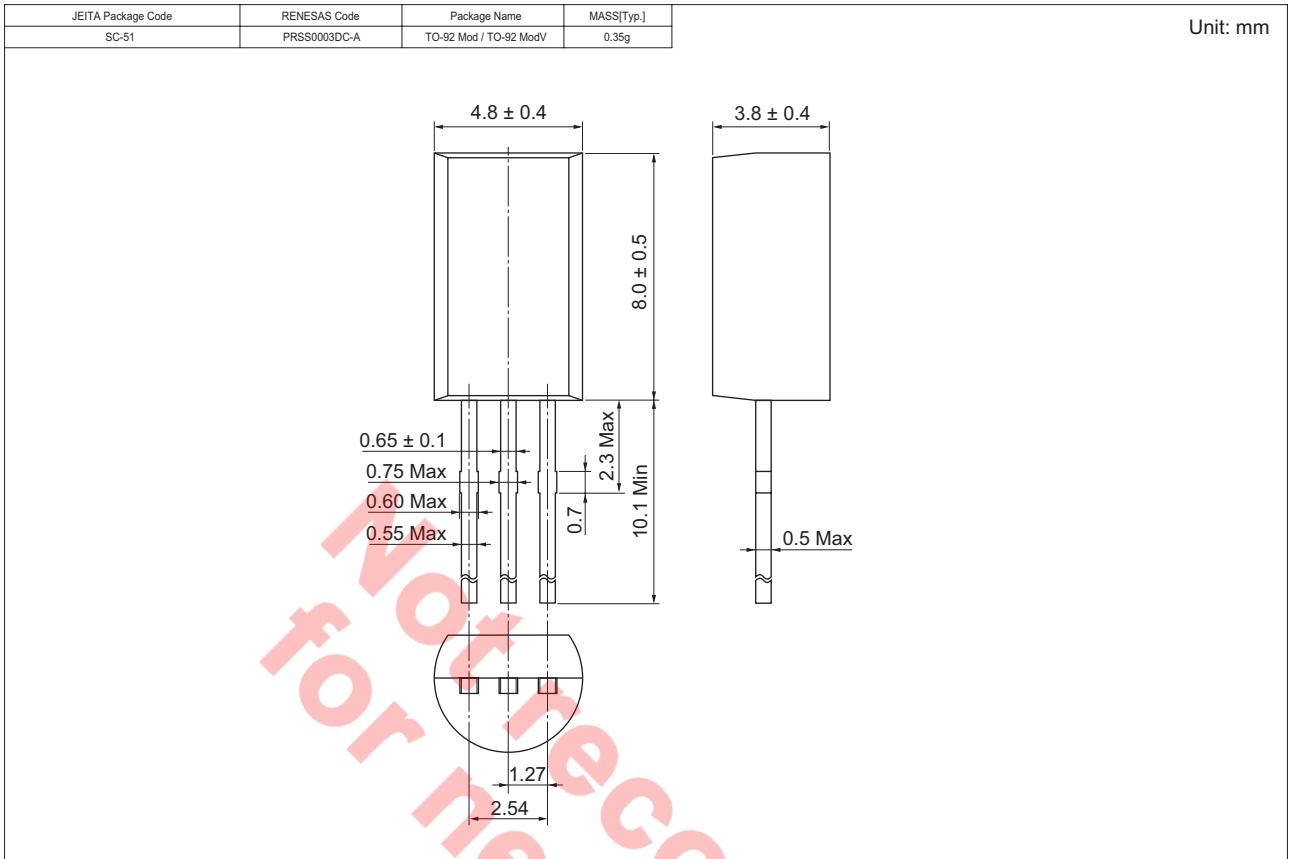
Main Characteristics





Not recommend  
for new design

### Package Dimensions



### Ordering Information

Part Name	Quantity	Shipping Container
2SD789CTZ-E 2SD789DTZ-E 2SD789ETZ-E	2500	Hold Box, Radial Taping

Note: For some grades, production may be terminated. Please contact the Renesas sales office to check the state of production before ordering the product.

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