

# 2SC1213, 2SC1213A

Silicon NPN Epitaxial

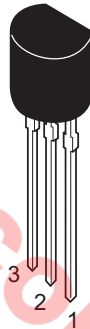
REJ03G0684-0200  
(Previous ADE-208-1048)  
Rev.2.00  
Aug.10.2005

## Application

- Low frequency amplifier
- Complementary pair with 2SA673 and 2SA673A

## Outline

RENESAS Package code: PRSS0003DA-A  
(Package name: TO-92 (1))



1. Emitter
2. Collector
3. Base

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	2SC1213	2SC1213A	Unit
Collector to base voltage	$V_{CBO}$	35	50	V
Collector to emitter voltage	$V_{CEO}$	35	50	V
Emitter to base voltage	$V_{EBO}$	4	4	V
Collector current	$I_C$	500	500	mA
Collector power dissipation	$P_C$	400	400	mW
Junction temperature	$T_j$	150	150	°C
Storage temperature	$T_{stg}$	-55 to +150	-55 to +150	°C

## Electrical Characteristics

(Ta = 25°C)

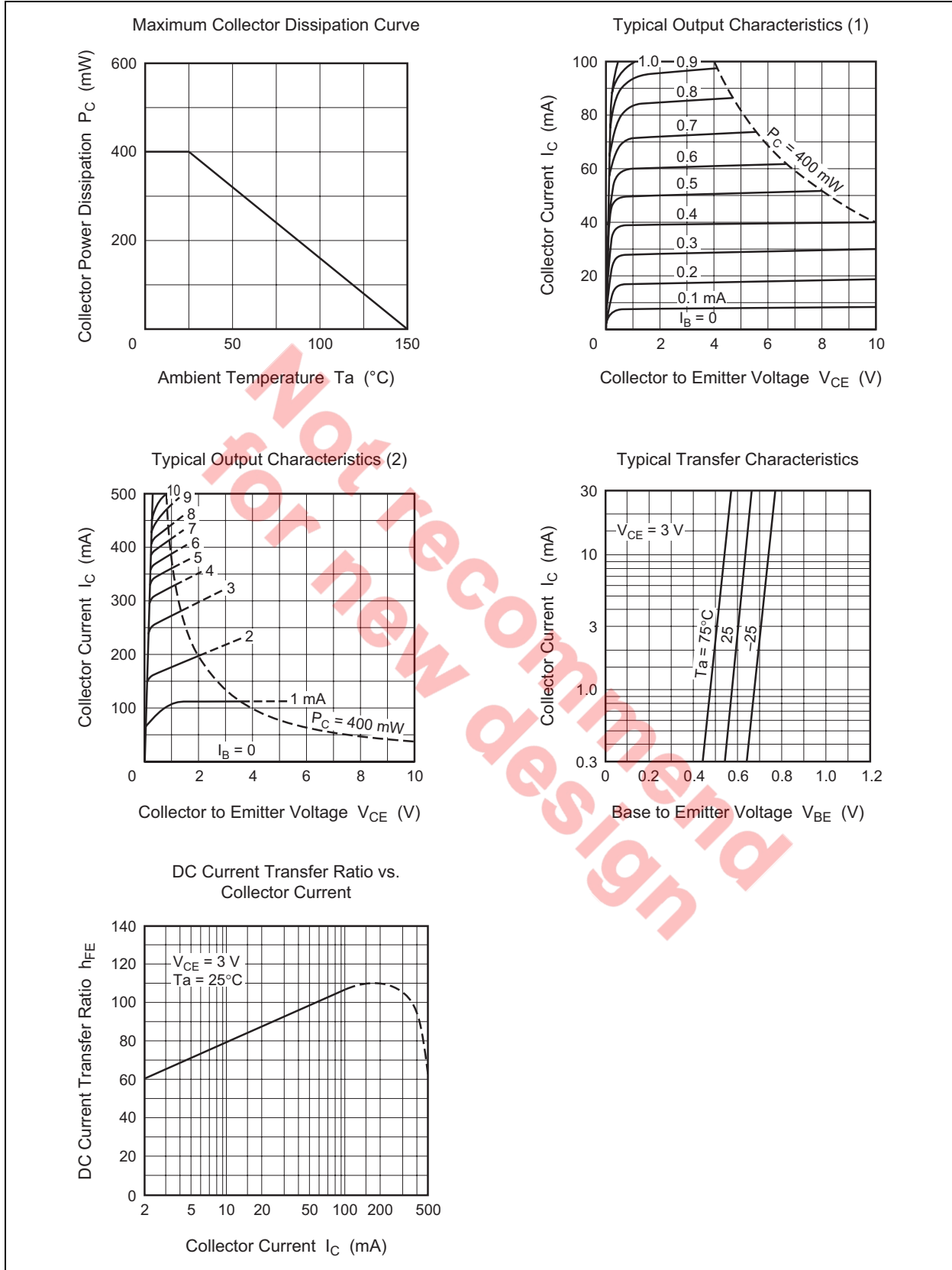
Item	Symbol	2SC1213			2SC1213A			Unit	Test conditions
		Min	Typ	Max	Min	Typ	Max		
Collector to base breakdown voltage	$V_{(BR)CBO}$	35	—	—	50	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	35	—	—	50	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	4	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	0.5	—	—	0.5	$\mu A$	$V_{CB} = 20 \text{ V}, I_E = 0$
DC current transfer ratio	$h_{FE}^{*1}$	60	—	320	60	—	320		$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$
	$h_{FE}$	10	—	—	10	—	—		$V_{CE} = 3 \text{ V}, I_C = 500 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.2	0.6	—	0.2	0.6	V	$I_C = 150 \text{ mA}, I_B = 15 \text{ mA}^{*2}$
Base to emitter voltage	$V_{BE}$	—	0.64	—	—	0.64	—	V	$V_{CE} = 3 \text{ V}, I_C = 10 \text{ mA}$

Notes: 1. The 2SC1213 and 2SC1213A are grouped by  $h_{FE}$  as follows.

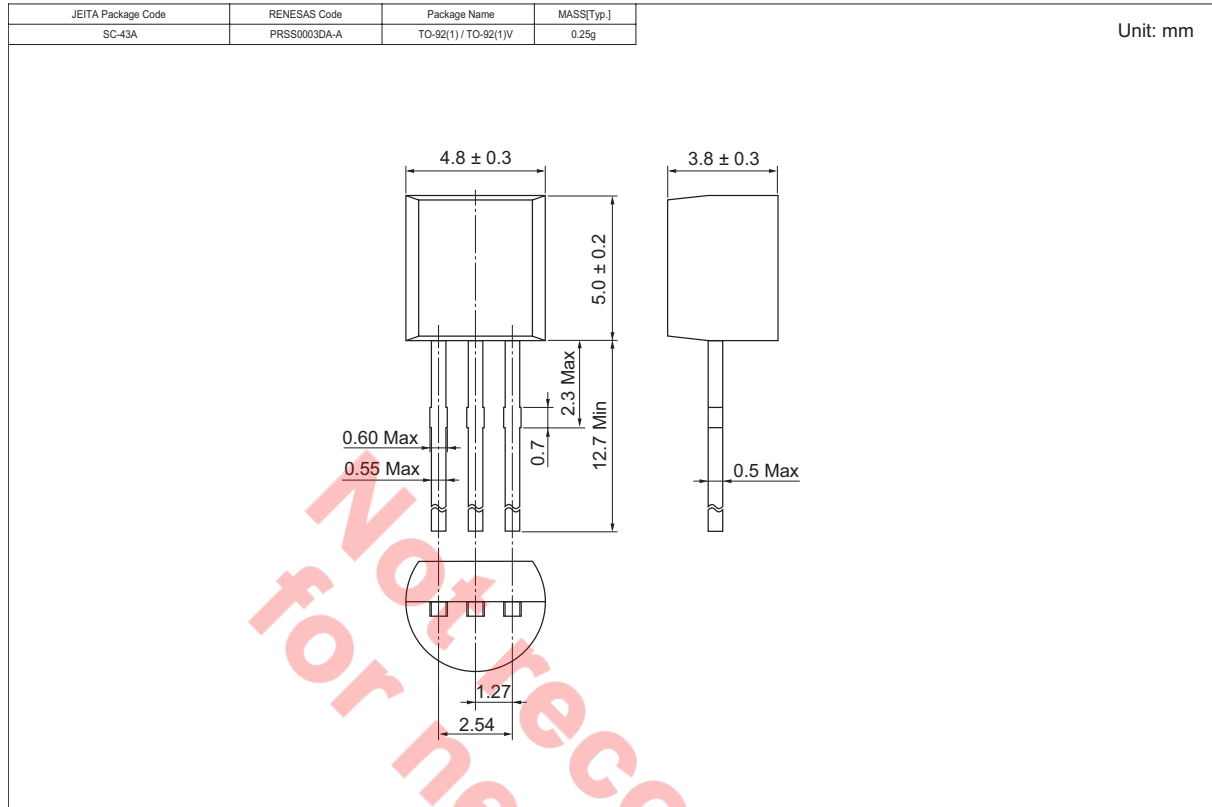
2. Pulse test

B	C	D
60 to 120	100 to 200	160 to 320

Main Characteristics



## Package Dimensions



## Ordering Information

Part Name	Quantity	Shipping Container
2SC1213CTZ-E	2500	Hold Box, Radial Taping
2SC1213DTZ-E		
2SC1213ABTZ-E		
2SC1213ACTZ-E		
2SC1213ADTZ-E		

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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