

# 2SC3512

Silicon NPN Epitaxial

REJ03G0714-0300

Rev.3.00

Apr 20, 2006

## Application

UHF / VHF wide band amplifier

## Outline

RENESAS Package code: PRSS0003DA-C  
(Package name: TO-92 (2))



1. Base
2. Emitter
3. Collector

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	15	V
Collector to emitter voltage	$V_{CEO}$	11	V
Emitter to base voltage	$V_{EBO}$	2	V
Collector current	$I_C$	50	mA
Collector power dissipation	$P_C$	600	mW
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

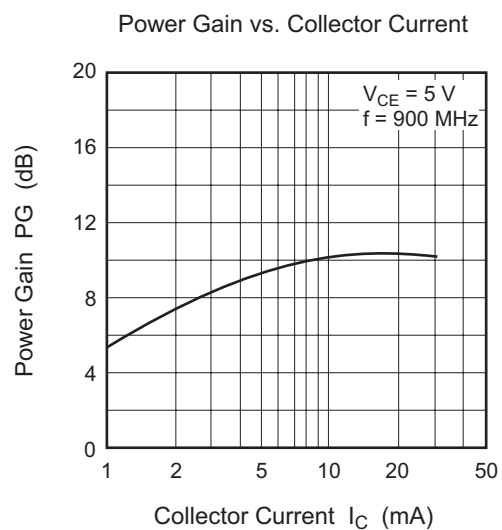
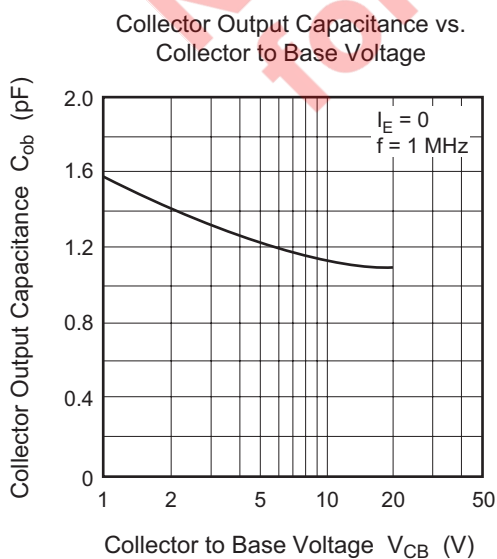
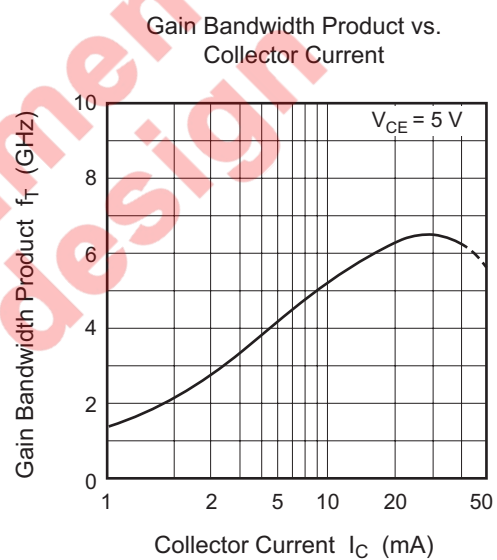
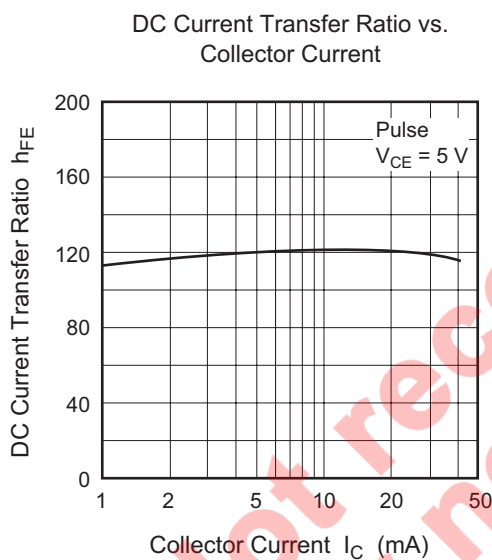
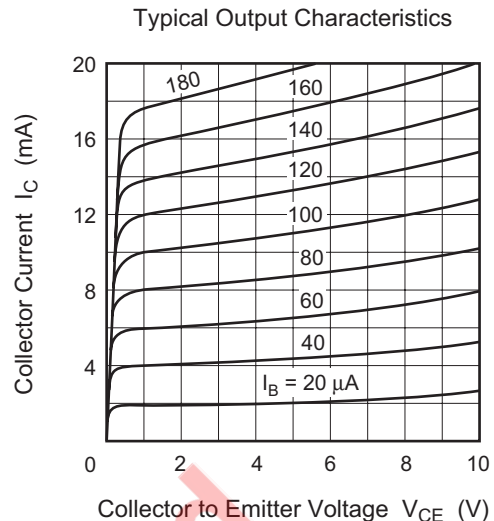
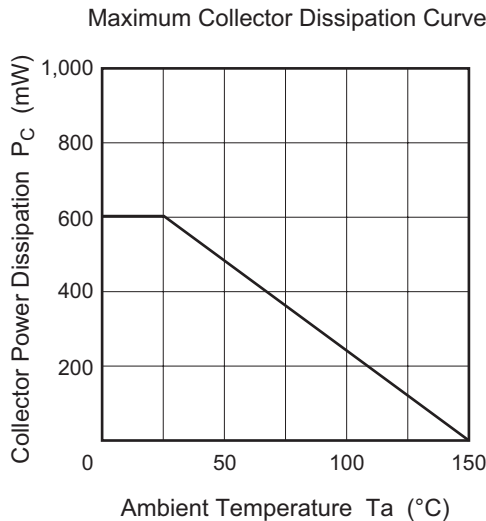
## Electrical Characteristics

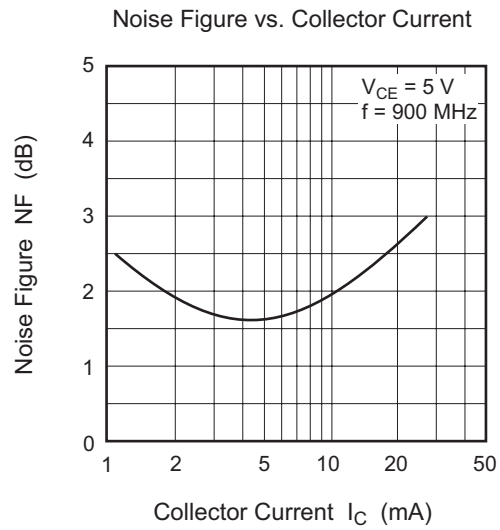
(Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_C = 10\ \mu A, I_E = 0$
Collector to cutoff current	$I_{CEO}$	—	—	1	$\mu A$	$V_{CE} = 10\ V, R_{BE} = \infty$
Emitter cutoff current	$I_{EBO}$	—	—	1	$\mu A$	$V_{EB} = 1\ V, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	1	$\mu A$	$V_{CB} = 12\ V, I_E = 0$
DC current transfer ratio	$h_{FE}$	50	120	250		$V_{CE} = 5\ V, I_C = 20\ mA$
Collector output capacitance	$C_{ob}$	—	1.2	1.6	pF	$V_{CB} = 5\ V, I_E = 0, f = 1\ MHz$
Gain bandwidth product	$f_T$	—	6.0	—	GHz	$V_{CE} = 5\ V, I_C = 20\ mA$
Power gain	PG	—	10.5	—	dB	$V_{CE} = 5\ V, I_C = 20\ mA, f = 900\ MHz$
Noise figure	NF	—	1.6	—	dB	$V_{CE} = 5\ V, I_C = 5\ mA, f = 900\ MHz$

Not recommend  
for new design

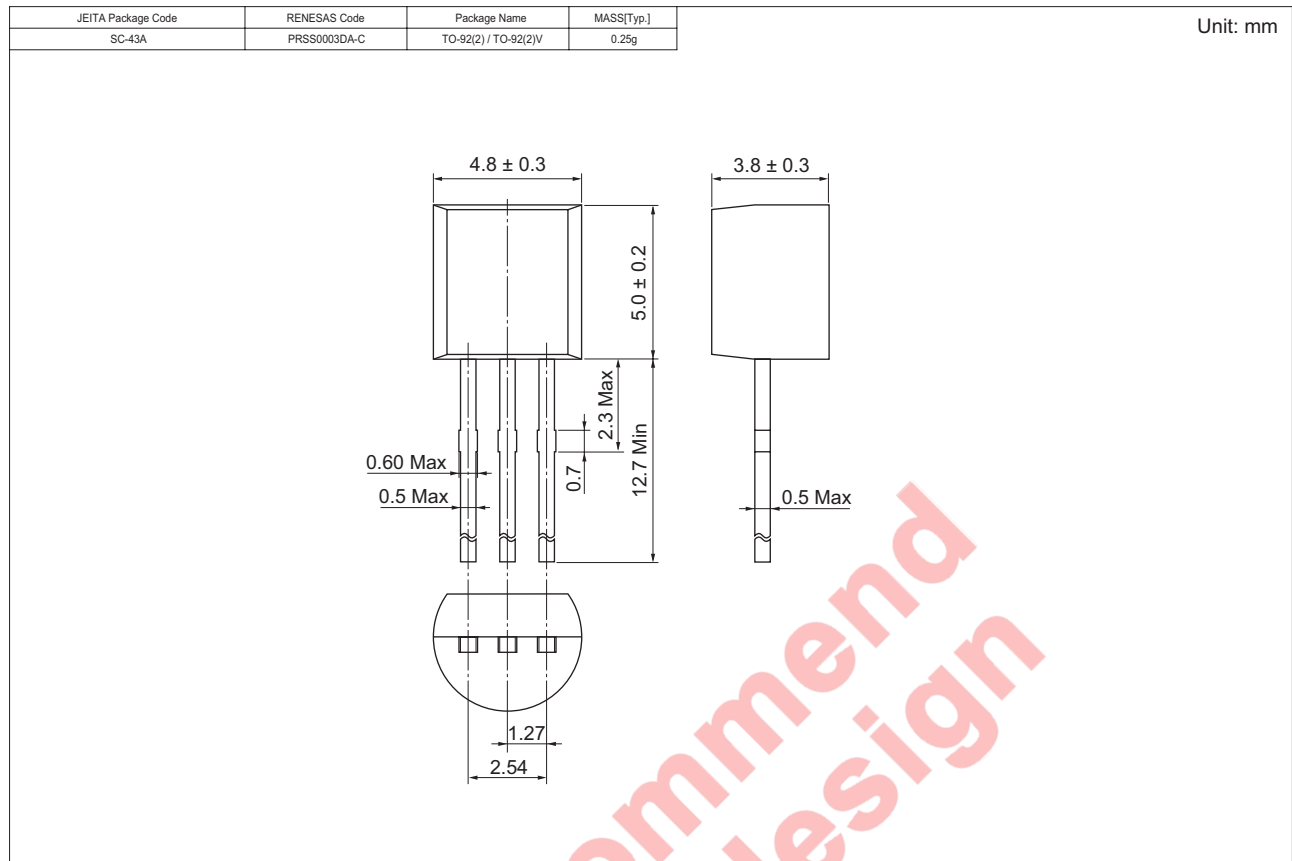
## Main Characteristics





Not recommended  
for new design

## Package Dimensions



## Ordering Information

Part Name	Quantity	Shipping Container
2SC3512TZ-E	2500	Hold Box, Radial Taping

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