

# 2SD1421

Silicon NPN Epitaxial

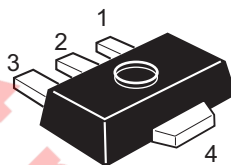
REJ03G0789-0200  
(Previous ADE-208-1152)  
Rev.2.00  
Aug.10.2005

## Application

Low frequency power amplifier

## Outline

RENESAS Package code: PLZZ0004CA-A  
(Package name: UPAK<sup>®</sup>)



- 1. Base
- 2. Collector
- 3. Emitter
- 4. Collector (Flange)

\*UPAK is a trademark of Renesas Technology Corp.

## Absolute Maximum Ratings

(Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	$V_{CBO}$	180	V
Collector to emitter voltage	$V_{CEO}$	160	V
Emitter to base voltage	$V_{EBO}$	5	V
Collector current	$I_C$	1.5	A
Collector peak current	$i_{C(peak)}^{*1}$	3	A
Collector power dissipation	$P_C^{*2}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

Notes: 1.  $PW \leq 10$  ms, Duty cycle  $\leq 20\%$

2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

## Electrical Characteristics

(Ta = 25°C)

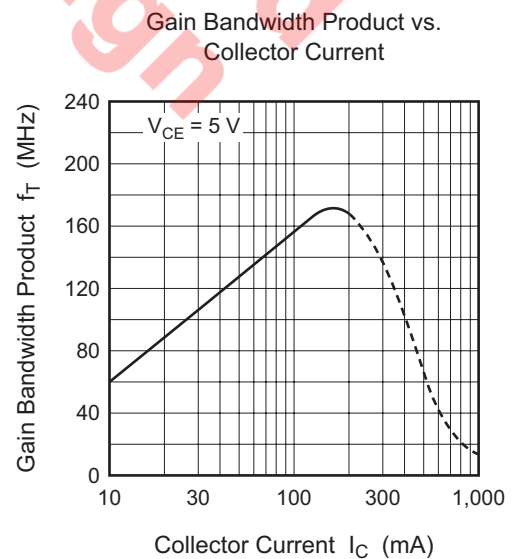
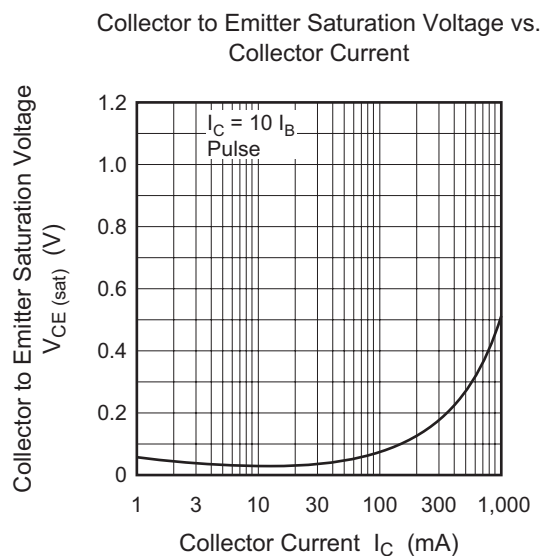
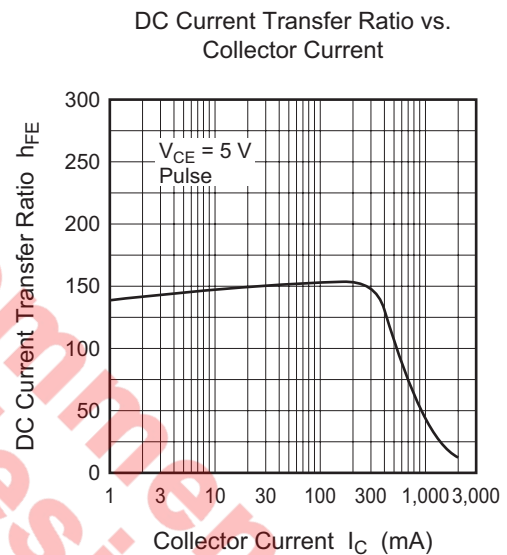
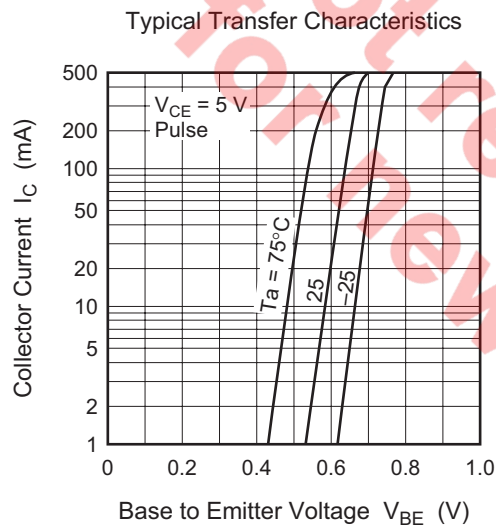
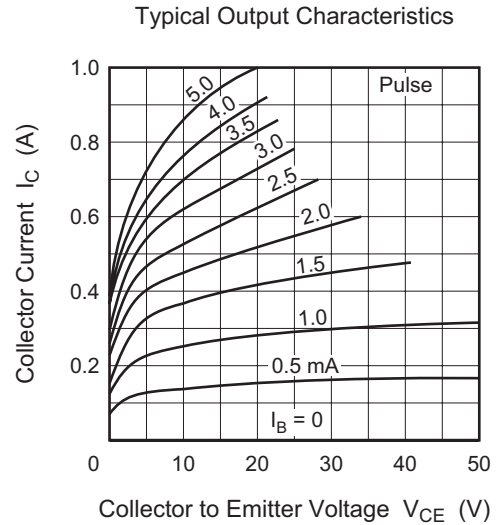
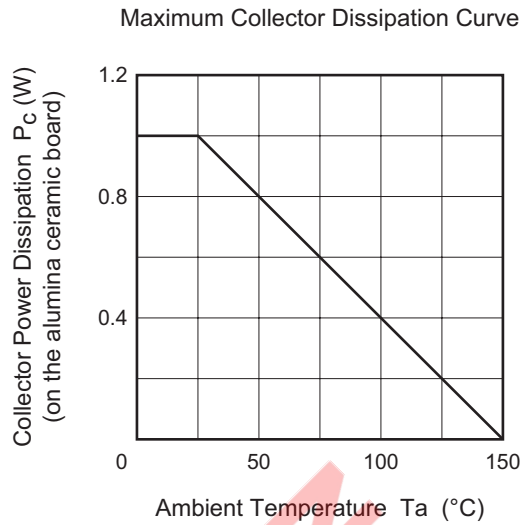
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	180	—	—	V	$I_C = 1 \text{ mA}$ , $I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	160	—	—	V	$I_C = 10 \text{ mA}$ , $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 1 \text{ mA}$ , $I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	$\mu\text{A}$	$V_{CB} = 160 \text{ V}$ , $I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	200		$V_{CE} = 5 \text{ V}$ , $I_C = 0.15 \text{ A}$
	$h_{FE2}$	30	—	—		$V_{CE} = 5 \text{ V}$ , $I_C = 0.5 \text{ A}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.0	V	$I_C = 0.5 \text{ A}$ , $I_B = 50 \text{ mA}$ , Pulse
Base to emitter voltage	$V_{BE}$	—	—	0.9	V	$V_{CE} = 5 \text{ V}$ , $I_C = 0.15 \text{ A}$ , Pulse

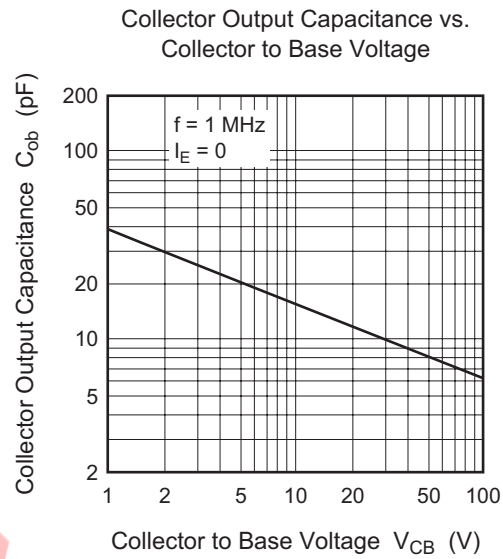
Note: 1. The 2SD1421 is grouped by  $h_{FE1}$  as follows.

Mark	ED	EE
$h_{FE1}$	60 to 120	100 to 200

Not recommend  
for new design

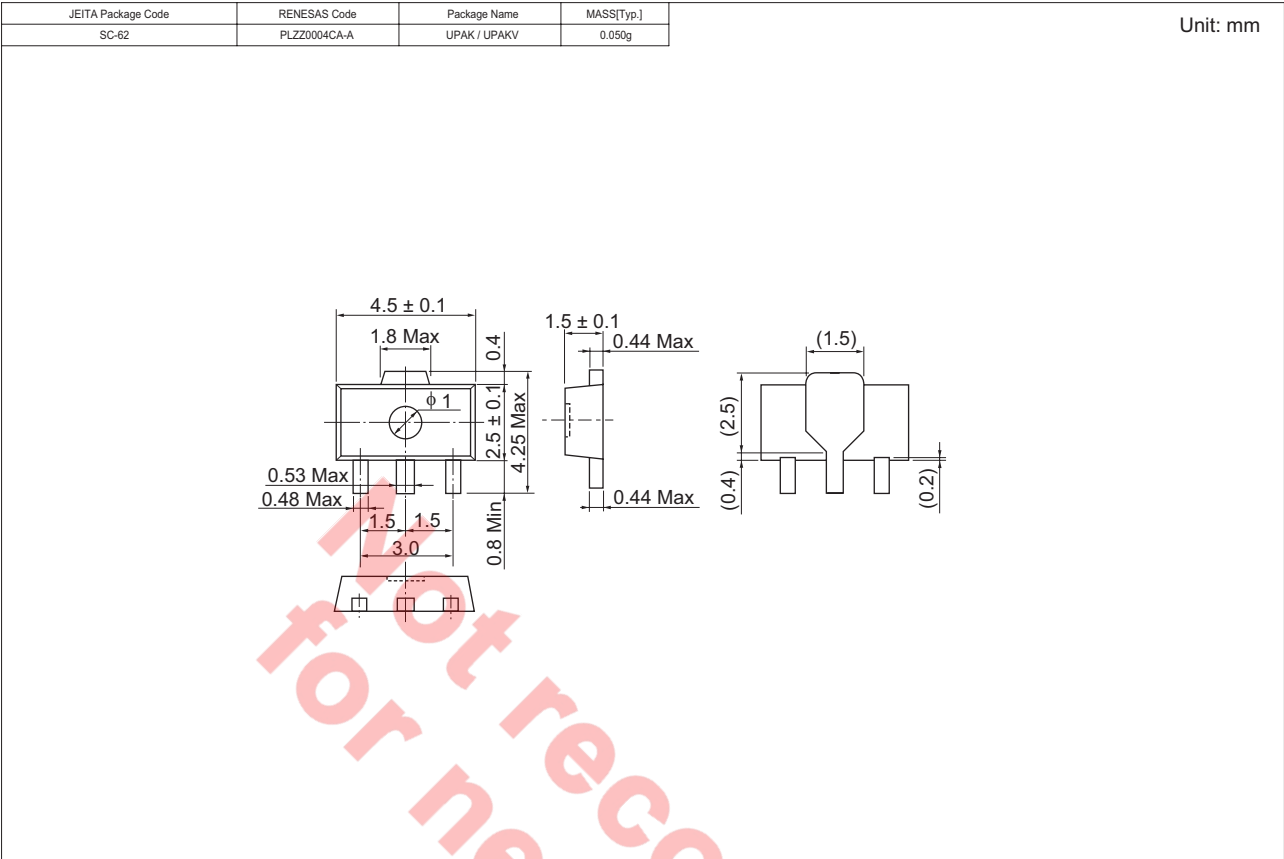
## Main Characteristics





Not recommend  
for new design

Package Dimensions



Ordering Information

Part Name	Quantity	Shipping Container
2SD1421EDTR-E	1000	$\phi$ 178 mm Reel, 12 mm Emboss Taping
2SD1421EETR-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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