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# 2SD1421

Silicon NPN Epitaxial

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## Application

Low frequency power amplifier

## Outline

UPAK



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

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## 2SD1421

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### 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	$i_{C(\text{peak})}^{*1}$	3	A
Collector power dissipation	$P_C^{*2}$	1	W
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{\text{stg}}$	-55 to +150	°C

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

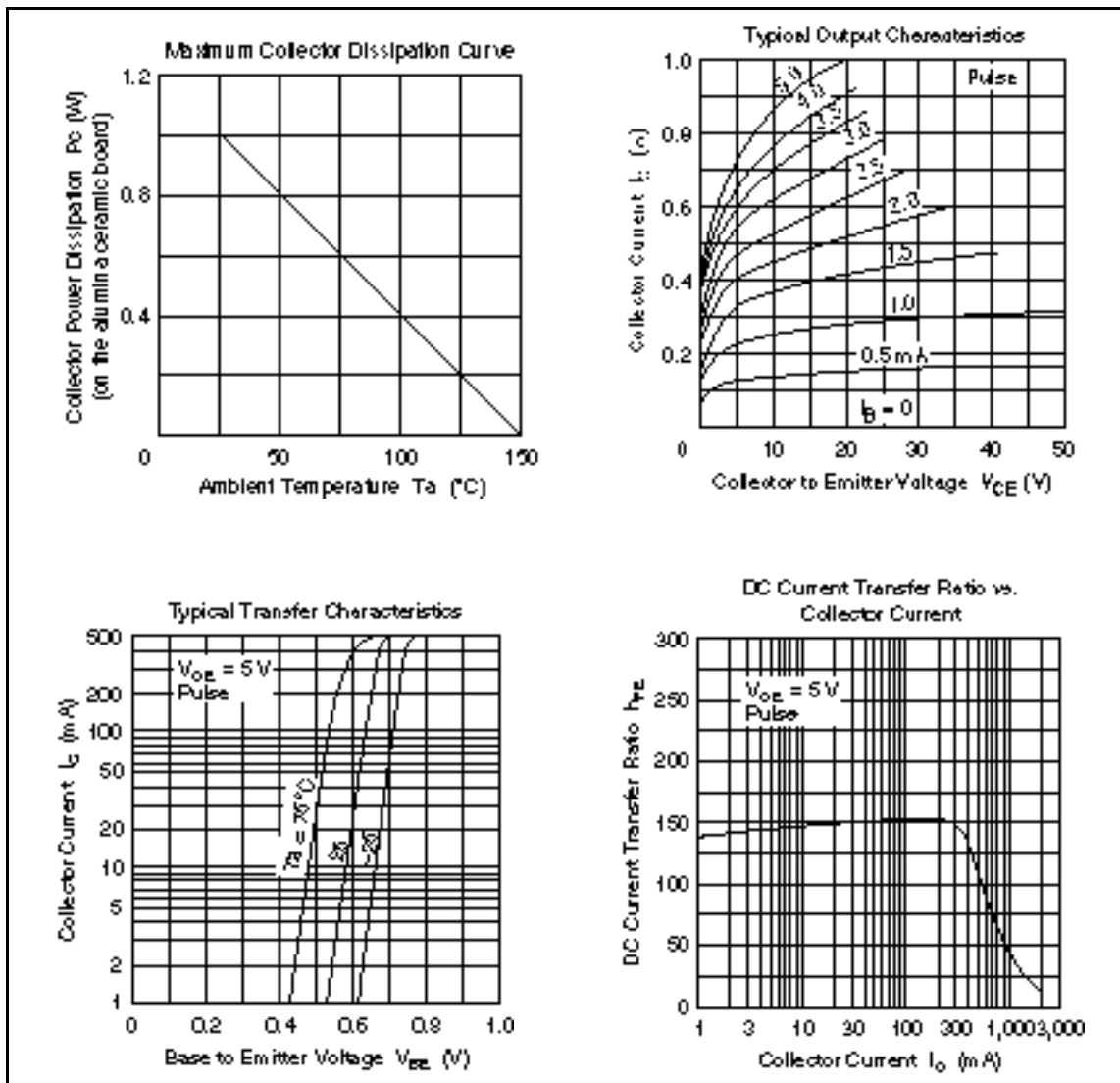
2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

### Electrical Characteristics (Ta = 25°C)

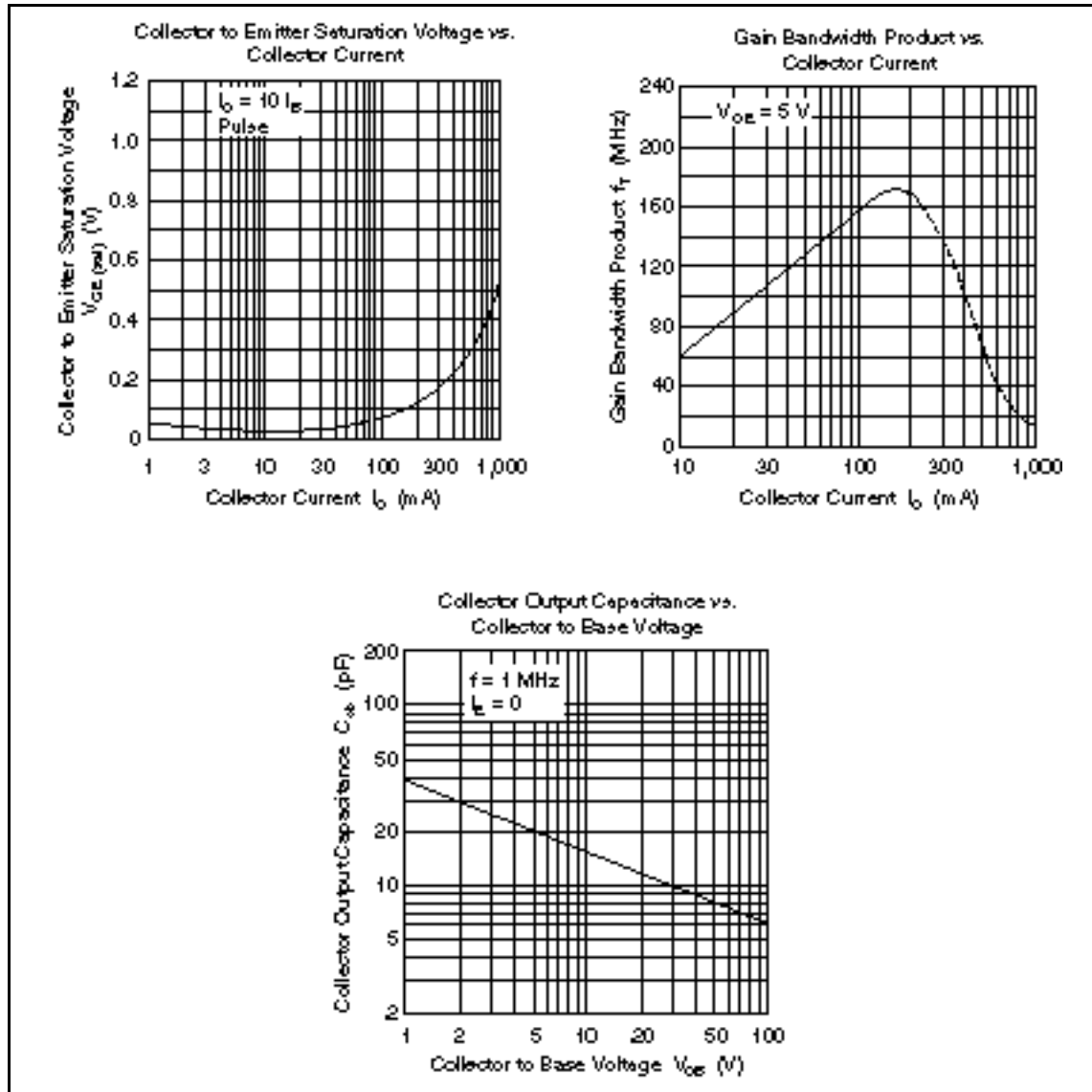
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	180	—	—	V	$I_C = 1 \text{ mA}, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	160	—	—	V	$I_C = 10 \text{ mA}, R_{BE} =$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 1 \text{ mA}, I_C = 0$
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	$V_{CE(\text{sat})}$	—	—	1.0	V	$I_C = 0.5 \text{ A}, I_B = 50 \text{ mA}, \text{Pulse}$
Base to emitter voltage	$V_{BE}$	—	—	0.9	V	$V_{CE} = 5 \text{ V}, I_C = 0.15 \text{ A}, \text{Pulse}$

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

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



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