
2SD1421

Silicon NPN Epitaxial

HITACHI

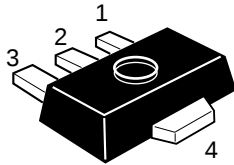
ADE-208-1152 (Z)
1st. Edition
Mar. 2001

Application

Low frequency power amplifier

Outline

UPAK



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

2SD1421

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

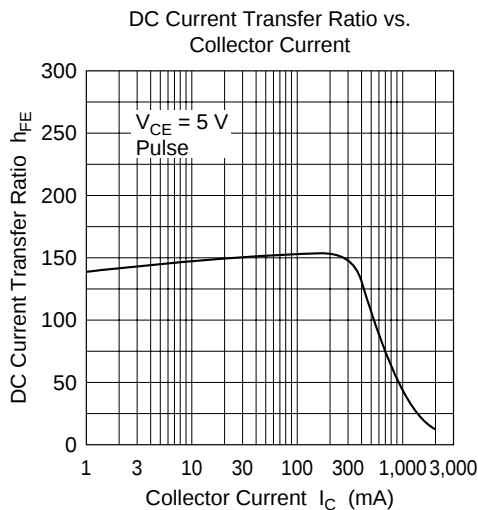
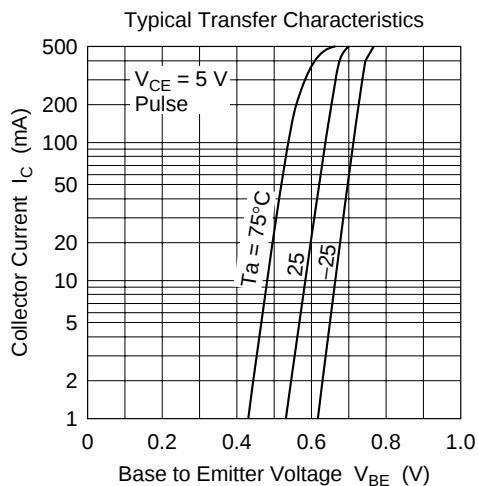
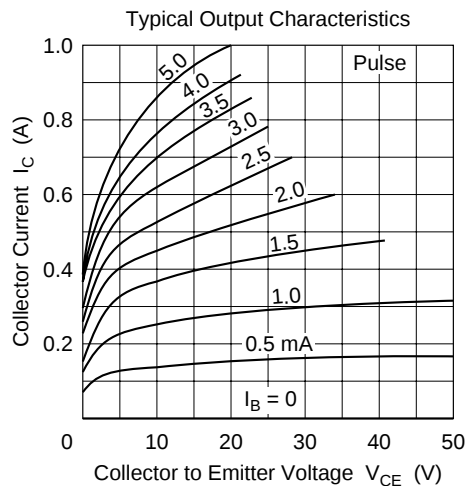
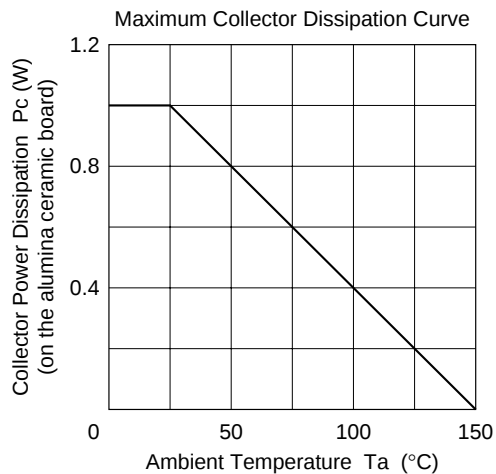
Notes: 1. $PW \leq 10$ ms, Duty cycle $\leq 20\%$
2. Value on the alumina ceramic board (12.5 x 20 x 0.7 mm)

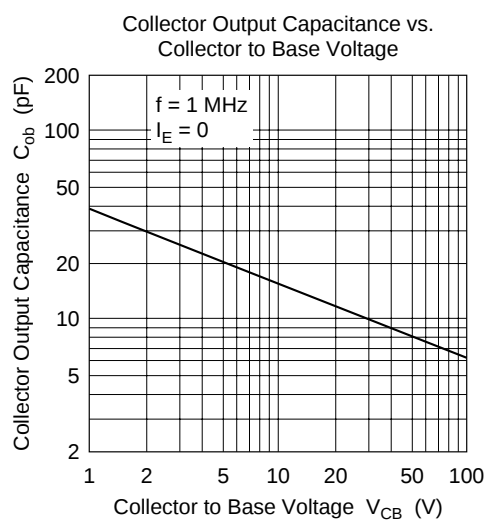
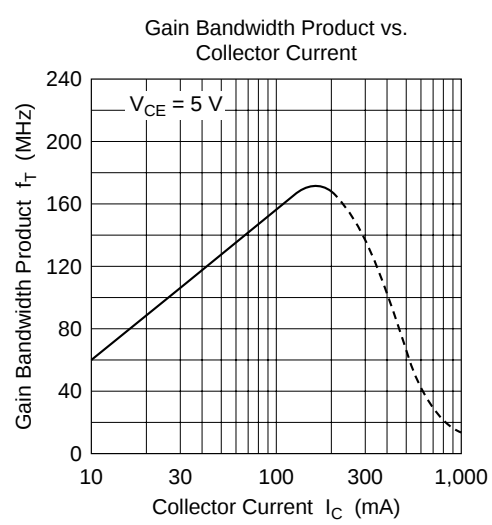
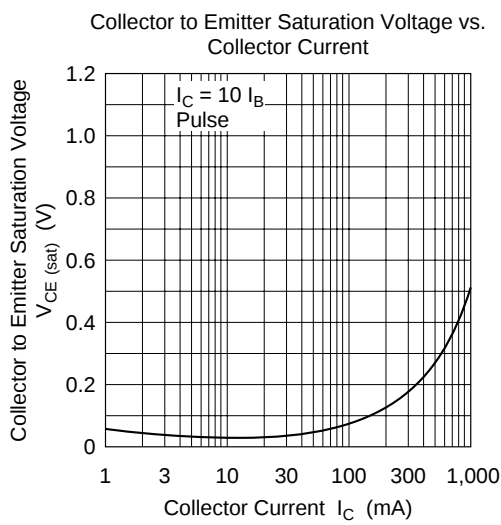
Electrical Characteristics (Ta = 25°C)

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

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

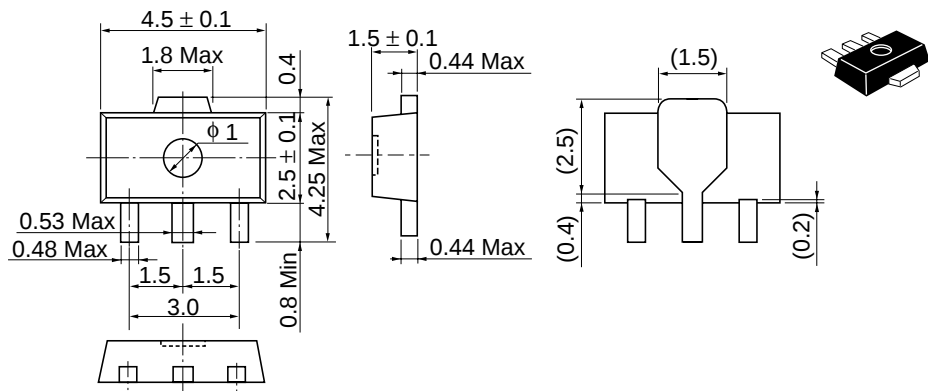
Mark	ED	EE
h_{FE1}	60 to 120	100 to 200





Package Dimensions

As of January, 2001
Unit: mm



Hitachi Code	UPAK
JEDEC	—
EIAJ	Conforms
Mass (reference value)	0.050 g

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