Silicon NPN Epitaxial

HITACHI

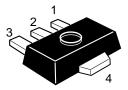
ADE-208-1150 (Z) 1st. Edition Mar. 2001

Application

- Low frequency power amplifier
- Complementary pair with 2SB1026

Outline

UPAK



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



Absolute Maximum Ratings ($Ta = 25^{\circ}C$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	120	V
Collector to emitter voltage	V _{CEO}	100	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I _c	1	A
Collector peak current	i _{C(peak)} *1	2	A
Collector power dissipation	P _C *2	1	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-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 ($Ta = 25^{\circ}C$)

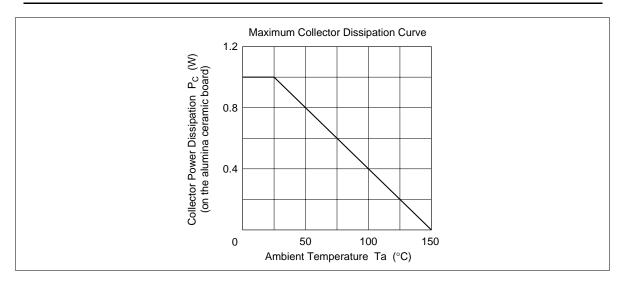
Item	Symbol	Min	Тур	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	_	_	V	$I_{C} = 10 \ \mu\text{A}, \ I_{E} = 0$
Collector to emitter breakdown voltage	$V_{\text{(BR)CEO}}$	100	_	_	V	I_{C} = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	_	_	V	$I_{E} = 10 \ \mu A, \ I_{C} = 0$
Collector cutoff current	I _{CBO}	_	_	10	μΑ	V _{CB} = 100 V, I _E = 0
DC current transfer ratio	h _{FE1} *1	60	_	200		$V_{CE} = 5 \text{ V}, I_{C} = 150 \text{ mA}^{*2}$
	h _{FE2}	30	_	_		$V_{CE} = 5 \text{ V}, I_{C} = 500 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{\text{CE(sat)}}$	_	_	1	V	$I_{\rm C}$ = 500 mA, $I_{\rm B}$ = 50 mA* ²
Base to emitter voltage	V_{BE}	_	_	1.5	V	$V_{CE} = 5 \text{ V}, I_{C} = 150 \text{ mA}^{*2}$
Gain bandwidth product	f_{T}	_	140	_	MHz	$V_{CE} = 5 \text{ V}, I_{C} = 150 \text{ mA}^{*2}$
Collector output capacitance	Cob	_	12	_	pF	$V_{CB} = 10 \text{ V}, I_{E} = 0, f = 1 \text{ MHz}$

Notes: 1. The 2SD1419 is grouped by h_{FE1} as follows.

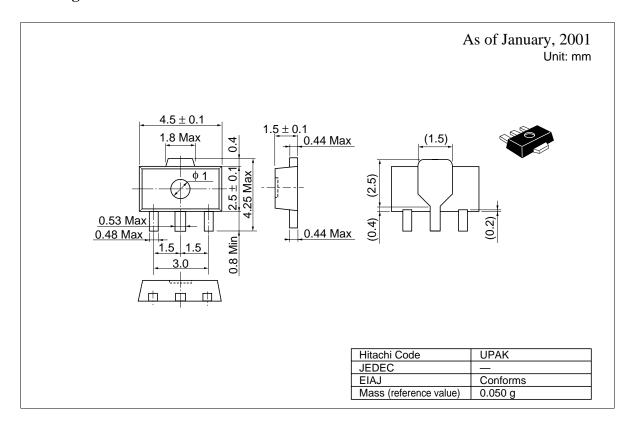
2. Pulse test

Mark	DD	DE
h _{FE1}	60 to 120	100 to 200

See characteristic curves of 2SD1418.



Package Dimensions



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