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# 2SD1419

Silicon NPN Epitaxial

# HITACHI

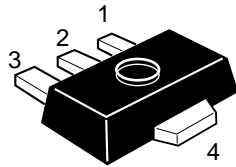
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## Application

- Low frequency power amplifier
- Complementary pair with 2SB1026

## Outline

UPAK



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

# 2SD1419

## Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated	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	$T_j$	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)

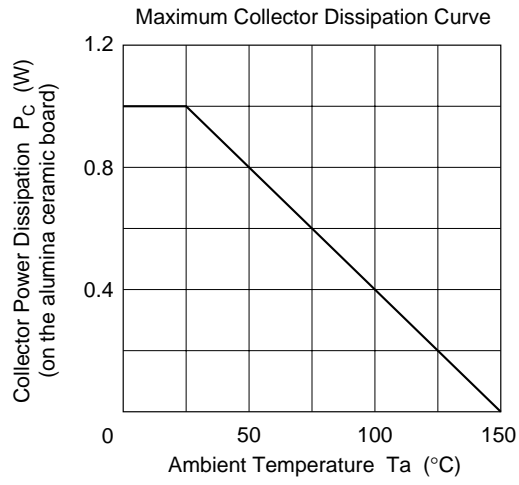
## Electrical Characteristics (Ta = 25°C)

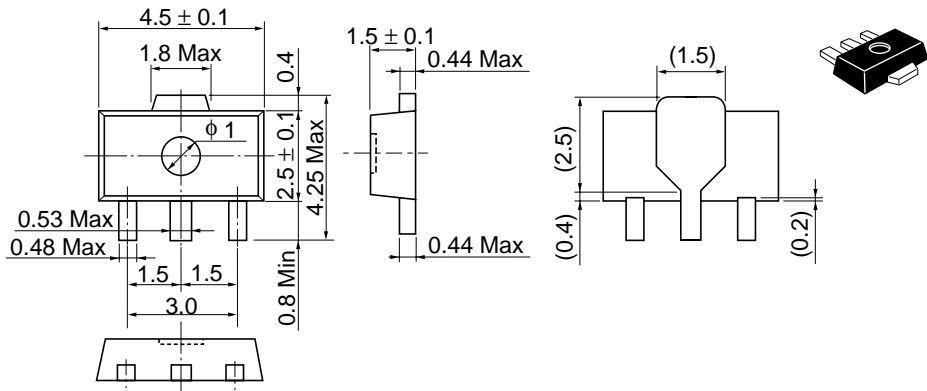
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	120	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	100	—	—	V	$I_C = 1$ mA, $R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	$I_{CBO}$	—	—	10	$\mu A$	$V_{CB} = 100$ V, $I_E = 0$
DC current transfer ratio	$h_{FE1}^{*1}$	60	—	200		$V_{CE} = 5$ V, $I_C = 150$ mA <sup>*2</sup>
	$h_{FE2}$	30	—	—		$V_{CE} = 5$ V, $I_C = 500$ mA <sup>*2</sup>
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1	V	$I_C = 500$ mA, $I_B = 50$ mA <sup>*2</sup>
Base to emitter voltage	$V_{BE}$	—	—	1.5	V	$V_{CE} = 5$ V, $I_C = 150$ mA <sup>*2</sup>
Gain bandwidth product	$f_T$	—	140	—	MHz	$V_{CE} = 5$ V, $I_C = 150$ mA <sup>*2</sup>
Collector output capacitance	$C_{ob}$	—	12	—	pF	$V_{CB} = 10$ V, $I_E = 0, f = 1$ 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.





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

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