
2SD1471

Silicon NPN Planar, Darlington

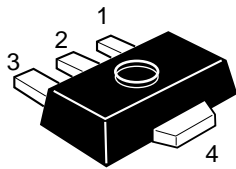
HITACHI

Application

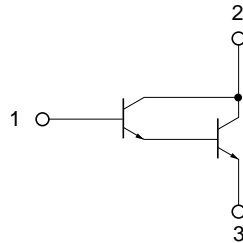
High gain amplifier

Outline

UPAK



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



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rated	Unit
Collector to base voltage	V_{CBO}	40	V
Collector to emitter voltage	V_{CEO}	30	V
Emitter to base voltage	V_{EBO}	10	V
Collector current	I_C	300	mA
Collector peak current	$i_{C(peak)}^{*1}$	500	mA
Collector power dissipation	P_C^{*2}	1	W
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

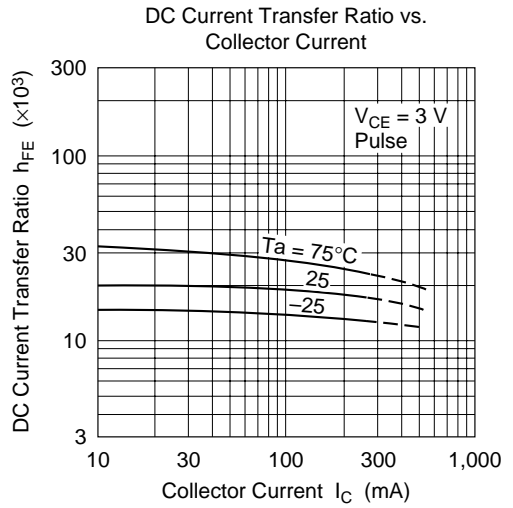
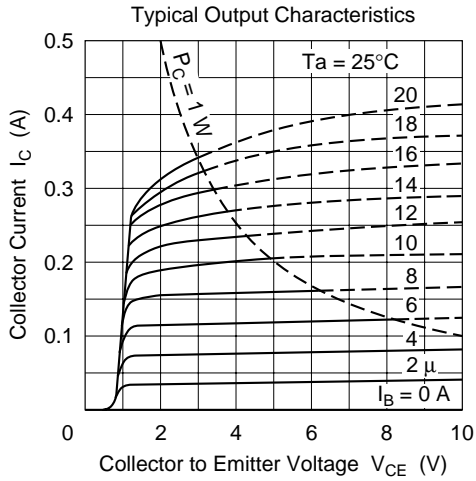
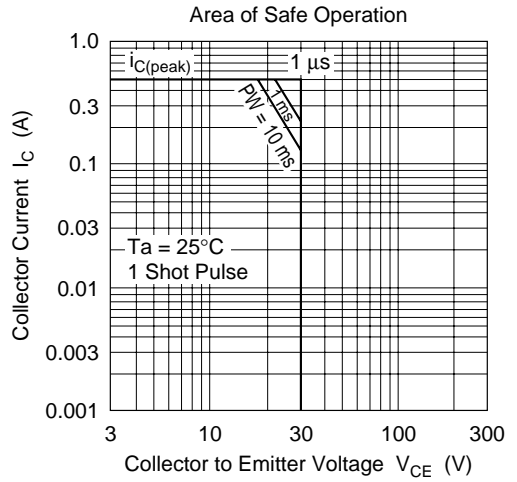
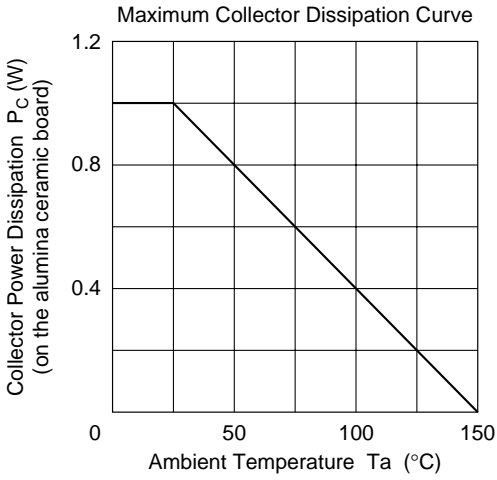
Notes: 1. Pulse ≤ 10 ms, Duty cycle $\leq 20\%$
 2. Value on the alumina ceramic board (12.5 x 30 x 0.7 mm)

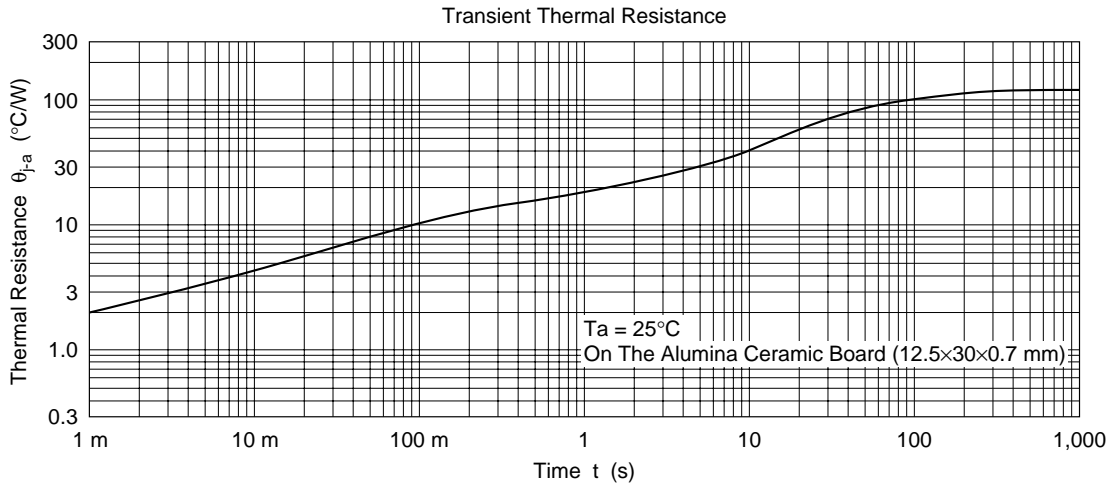
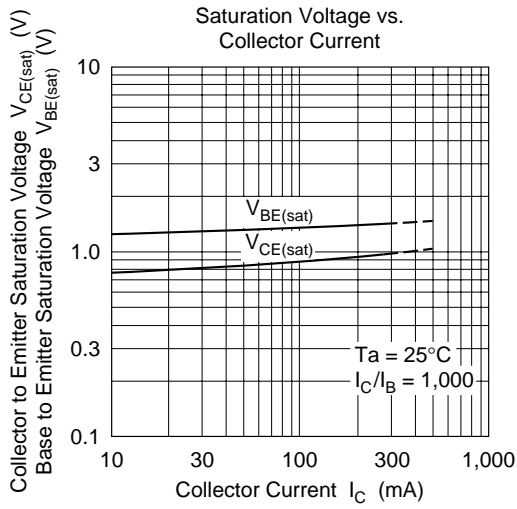
Electrical Characteristics (Ta = 25°C)

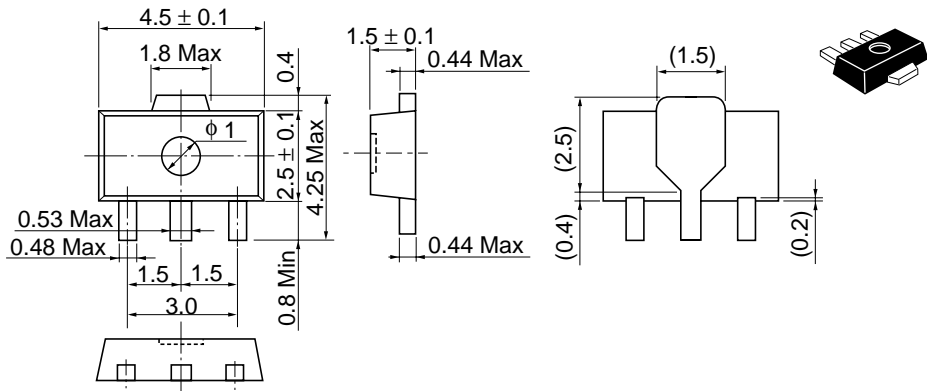
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	40	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	30	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	10	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	1	μA	$V_{CB} = 30 \text{ V}, I_E = 0$
	I_{CEO}	—	—	10	μA	$V_{CE} = 24 \text{ V}, R_{BE} = \infty$
DC current transfer ratio	h_{FE1}^{*1}	2000	—	100000		$V_{CE} = 5 \text{ V}, I_C = 10 \text{ mA}^{*2}$
	h_{FE2}^{*1}	3000	—	—		$V_{CE} = 5 \text{ V}, I_C = 100 \text{ mA}^{*2}$
	h_{FE3}^{*1}	3000	—	—		$V_{CE} = 5 \text{ V}, I_C = 400 \text{ mA}^{*2}$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	1.5	V	$I_C = 100 \text{ mA}, I_B = 0.1 \text{ mA}^{*2}$
Base to emitter saturation voltage	$V_{BE(sat)}$	—	—	2.0	V	$I_C = 100 \text{ mA}, I_B = 0.1 \text{ mA}^{*2}$

Notes: 1. The 2SD1471 is grouped by h_{FE} as follows.
 2. Pulse test

Mark	DT	ET
h_{FE1}	2000 to 100000	5000 to 100000
h_{FE2}	3000 min	10000 min
h_{FE3}	3000 min	10000 min







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

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