
2SA1337

Silicon PNP Epitaxial

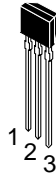
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Application

- Low frequency low noise amplifier
- HF amplifier

Outline

SPAK



1. Emitter
2. Collector
3. Base

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

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	-55	V
Collector to emitter voltage	V_{CEO}	-50	V
Emitter to base voltage	V_{EBO}	-5	V
Collector current	I_{C}	-100	mA
Collector power dissipation	P_{C}	300	mW
Junction temperature	T_{j}	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

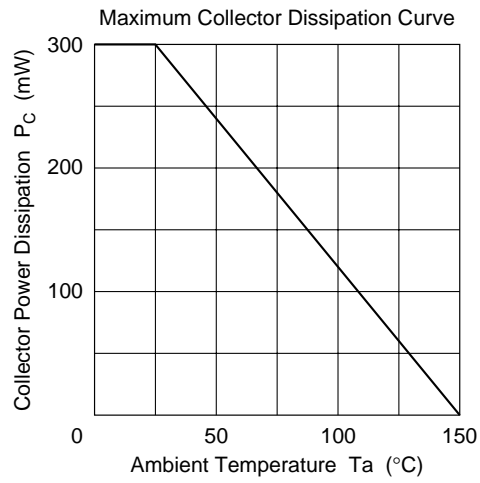
Electrical Characteristics ($T_a = 25^\circ\text{C}$)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	-55	—	—	V	$I_{\text{C}} = -10 \mu\text{A}$, $I_{\text{E}} = 0$
Collector to emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	-50	—	—	V	$I_{\text{C}} = -1 \text{ mA}$, $R_{\text{BE}} = \infty$
Emitter to base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	-5	—	—	V	$I_{\text{E}} = -10 \mu\text{A}$, $I_{\text{C}} = 0$
Collector cutoff current	I_{CBO}	—	—	-0.5	μA	$V_{\text{CB}} = -18 \text{ V}$, $I_{\text{E}} = 0$
Emitter cutoff current	I_{EBO}	—	—	-0.5	μA	$V_{\text{EB}} = -2 \text{ V}$, $I_{\text{C}} = 0$
DC current transfer ratio	h_{FE}^{*1}	100	—	320		$V_{\text{CE}} = -12 \text{ V}$, $I_{\text{C}} = -2 \text{ mA}$
Base to emitter voltage	V_{BE}	—	—	-0.75	V	$V_{\text{CE}} = -12 \text{ V}$, $I_{\text{C}} = -2 \text{ mA}$
Collector to emitter saturation voltage	$V_{\text{CE}(\text{sat})}$	—	—	-0.2	V	$I_{\text{C}} = -10 \text{ mA}$, $I_{\text{B}} = -1 \text{ mA}$
Gain bandwidth product	f_{T}	—	200	—	MHz	$V_{\text{CE}} = -12 \text{ V}$, $I_{\text{C}} = -2 \text{ mA}$
Collector output capacitance	C_{ob}	—	—	4.5	pF	$V_{\text{CB}} = -10 \text{ V}$, $I_{\text{E}} = 0$, $f = 1 \text{ MHz}$
Noise figure	NF	—	1.0	5.0	dB	$V_{\text{CE}} = -6 \text{ V}$, $I_{\text{C}} = -0.1 \text{ mA}$, $R_{\text{g}} = 1 \text{ k}\Omega$, $f = 1 \text{ kHz}$

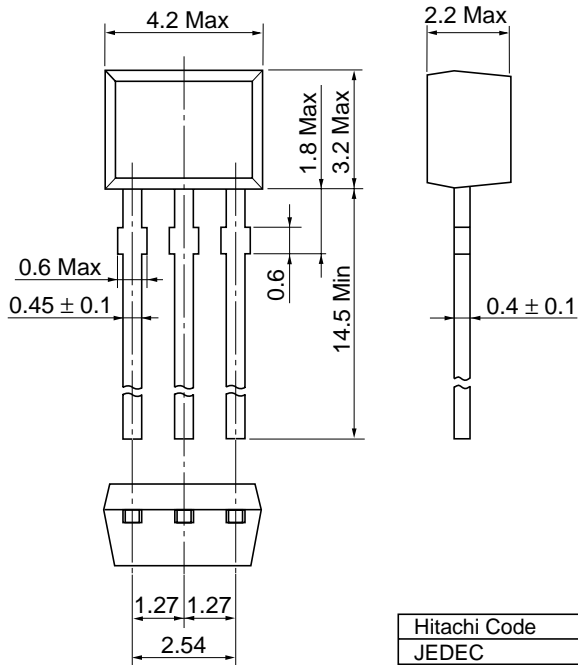
Note: 1. The 2SA1337 is grouped by h_{FE} as follows.

B	C
100 to 200	160 to 320

See characteristic curves of 2SA1031.



Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Weight (reference value)	0.10 g

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