2SC5050

Silicon NPN Epitaxial

HITACHI

Application

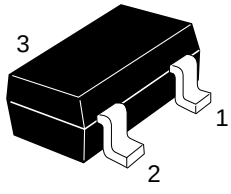
VHF / UHF wide band amplifier

Features

- High gain bandwidth product
  f_T = 11 GHz Typ
- High gain, low noise figure
  PG = 14.0 dB Typ, NF = 1.1 dB Typ at f = 900 MHz

Outline

MPAK



1. Emitter
2. Base
3. Collector

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	8	V
Emitter to base voltage	V_{EBO}	1.5	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Electrical Characteristics (Ta = 25°C)

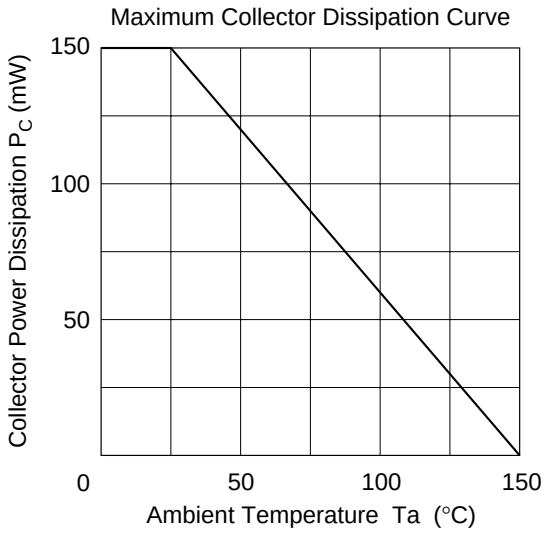
Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	I_C = 10 µA, I_E = 0
Collector cutoff current	I_{CBO}	—	—	10	µA	V_{CB} = 12 V, I_E = 0
	I_{CEO}	—	—	1	mA	V_{CE} = 8 V, R_{BE} = ∞
Emitter cutoff current	I_{EBO}	—	—	10	µA	V_{EB} = 1.5 V, I_C = 0
DC current transfer ratio	h_{FE}	50	120	250		V_{CE} = 5 V, I_C = 20 mA
Collector output capacitance	Cob	—	0.6	1.1	pF	V_{CB} = 5 V, I_E = 0, f = 1 MHz
Gain bandwidth product	f_T	8.0	11.0	—	GHz	V_{CE} = 5 V, I_C = 20 mA
S21 Parameter	|S21|	—	13.5	—	dB	V_{CE} = 5 V, I_C = 20 mA, f = 1000 MHz
Power gain	PG	11.0	14.0	—	dB	V_{CE} = 5 V, I_C = 20 mA, f = 900 MHz
Noise figure	NF	—	1.1	2.0	dB	V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz

Note: Marking is “YZ–”.

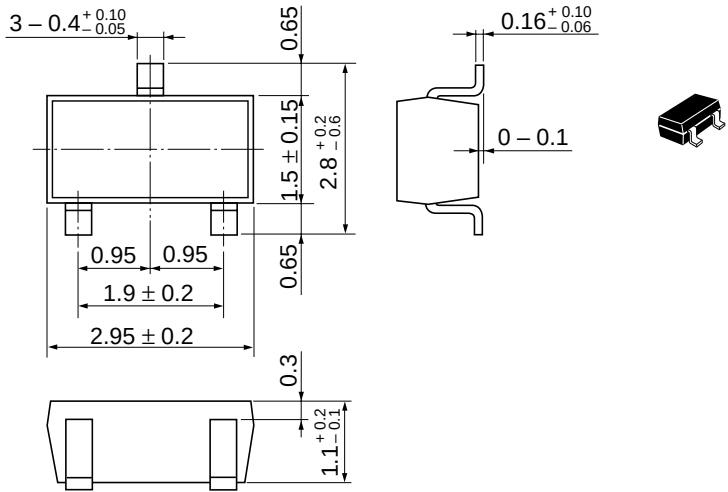
Attention: This device is very sensitive to electro static discharge.

It is recommended to adopt appropriate cautions when handling this transistor.

See characteristic curves of 2SC4926.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (mW)
150
100
50
0
50
100
150
Ambient Temperature Ta (°C)

Unit: mm



Hitachi Code	MPAK
JEDEC	—
EIAJ	Conforms
Weight (reference value)	0.011 g

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