2SC5051

Silicon NPN Epitaxial

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Application

VHF / UHF wide band amplifier

Features

- High gain bandwidth product
  $f_T = 11$ GHz Typ
- High gain, low noise figure
  PG = 14.5 dB Typ, NF = 1.1 dB Typ at f = 900 MHz

Outline

CMPAK

3
1
2

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	100	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	−55 to +150	°C

Electrical Characteristics (Ta = 25°C)

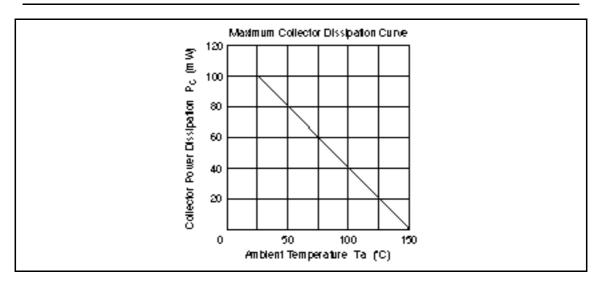| Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	15	—	—	V	$I_C = 10$ μA, $I_E = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 12$ V, $I_E = 0$
	I_{CEO}	—	—	1	mA	$V_{CE} = 8$ V, $R_{BE} =$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 1.5$ 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	—	0.65	1.15	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|	—	14.0	—	dB	$V_{CE} = 5$ V, $I_C = 20$ mA, f = 1000 MHz
Power gain	PG	11.5	14.5	—	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.

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Maximum Collector Dissipation Curve

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