
2SC5050

Silicon NPN Epitaxial

HITACHI

Application

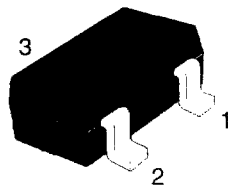
VHF / UHF wide band amplifier

Features

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

Outline

MPAK



1. Emitter
2. Base
3. Collector

2SC5050

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	T_j	150	°C
Storage temperature	T_{stg}	-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	$I_C = 10 \mu A, I_E = 0$
Collector cutoff current	I_{CBO}	—	—	10	μA	$V_{CB} = 12 V, I_E = 0$
	I_{CEO}	—	—	1	mA	$V_{CE} = 8 V, R_{BE} = \infty$
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	C_{ob}	—	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.

