

2SC4991

Silicon NPN Bipolar Transistor

Application

VHF & UHF wide band amplifire

Features

- High gain bandwidth product
 $f_T = 9.5$ GHz typ
- High gain, low noise figure
 $PG = 14.5$ dB typ,
 $NF = 1.2$ dB typ at $f = 900$ MHz

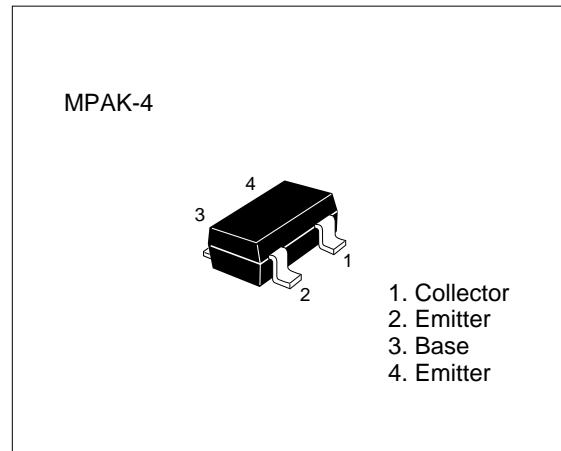


Table 1 Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	15	V
Collector to emitter voltage	V_{CEO}	9	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	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

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Table 2 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}	—	—	1	μA	$V_{CB} = 12 V, I_E = 0$
	I_{CEO}	—	—	1	mA	$V_{CE} = 9 V, R_{BE} = \infty$
Emitter cutoff current	I_{EBO}	—	—	10	μA	$V_{EB} = 1.5 V, I_C = 0$
DC current transfer ratio	h_{FE}	50	120	250		$V_{CE} = 5 V, I_C = 20 mA$
Output capacitance	C_{ob}	—	0.9	1.3	pF	$V_{CB} = 5 V, I_E = 0, f = 1 MHz$
Gain bandwidth product	f_T	6.5	9.5	—	GHz	$V_{CE} = 5 V, I_C = 20 mA$
Power gain	PG	11.5	14.5	—	dB	$V_{CE} = 5 V, I_C = 20 mA, f = 900 MHz$
Noise figure	NF	—	1.2	2.5	dB	$V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz$

Note: Marking of 2SC4991 is "YR-".

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

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