HITACHI

2SC5051

Silicon NPN Bipolar Transistor

Application

VHF & UHF wide band amplifire

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

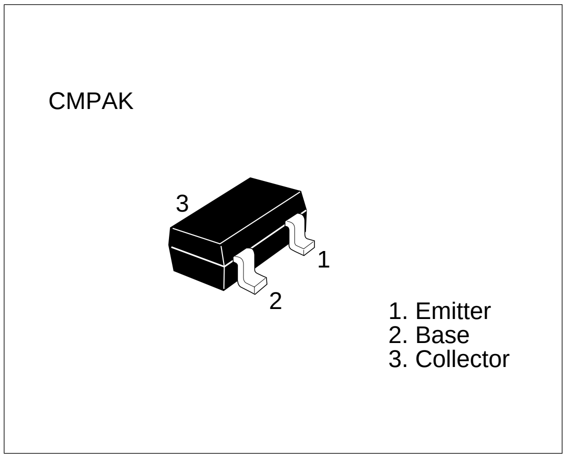

Table 1 Absolute Maximum Ratings (Ta = 25°C)

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	T_j	150	°C
Storage temperature	Tstg	–55 to +150	°C

2SC5051

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 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
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
S_{21} Parameter	$\|S_{21}\|$	—	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: See characteristic curve of 2SC4926.
Marking of 2SC5051 is "YZ–".
Attention: This device is very sensitive to electro static discharge.
It is recommended to adopt appropriate cautions when handling this transistor.