HITACHI

2SC5078

Silicon NPN Epitaxial

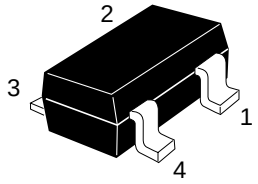
Application

VHF & UHF wide band amplifire

Features

- High gain bandwidth product
  f_T = 12 GHz typ
- High gain, low noise figure
  PG = 17 dB typ,
  NF = 1.6 dB typ at f = 900 MHz

MPAK–4



1. Collector
2. Emitter
3. Base
4. Emitter

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	20	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	Tstg	–55 to +150	°C

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Table 2 Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector cutoff current	I_{CBO}	—	—	10	µA	V_{CB} = 15 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	160		V_{CE} = 5 V, I_C = 10 mA
Collector output capacitance	Cob	—	0.3	0.8	pF	V_{CB} = 5 V, I_E = 0, f = 1 MHz
Gain bandwidth product	f_T	9	12	—	GHz	V_{CE} = 5 V, I_C = 5 mA
Power gain	PG	14	17	20	dB	V_{CE} = 5 V, I_C = 10 mA, f = 900 MHz
Noise figure	NF	—	1.6	2.5	dB	V_{CE} = 5 V, I_C = 5 mA, f = 900 MHz

Note: Marking of 2SC5078 is "ZC-".

Attention: This device is very sensitive to electro static discharge.
It is recommended to adopt appropriate cautions when handling this transistor.