HITACHI

2SC5023

Silicon NPN Epitaxial

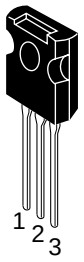
Application

High frequency amplifier

Features

- Excellent high frequency characteristics
  f_T = 1000 MHz typ
- High breakdown voltage and low output capacitance
  V_{CEO} = 100 V, Cob = 4.5 pF typ
- Suitable for wide band video amplifier

TO–126FM



1. Emitter
2. Collector
3. Base

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Rating	Unit
Collector to base voltage	V_{CBO}	100	V
Collector to emitter voltage	V_{CEO}	100	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	0.2	A
Collector peak current	ic(peak)	0.5	A
Collector power dissipation	P_C	1.25	W
Collector power dissipation	P_C*1	8	W
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

Note: 1. Value at T_C = 25°C.

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Electrical Characteristics (Ta = 25°C)

Item		Symbol	Min	Typ	Max	Unit	Test Conditions
Collector to base breakdown voltage		$V_{(BR)CBO}$	100	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage		$V_{(BR)CEO}$	100	—	—	V	I_C = 1 mA, R_{BE} = ∞
Collector cutoff current		I_{CBO}	—	—	1.0	µA	V_{CB} = 80 V, I_E = 0
Emitter cutoff current		I_{EBO}	—	—	10	µA	V_{EB} = 3 V, I_C = 0
DC current transfer ratio	2SC5023B	h_{FE}	60	—	120		V_{CE} = 10 V, I_C = 10 mA
	2SC5023C	h_{FE}	100	—	200		
Base to emitter voltage		V_{BE}	—	—	1.0	V	V_{CE} = 10 V, I_C = 10 mA
Collector to emitter saturation voltage		$V_{CE(sat)}$	—	—	1.0	V	I_C = 100 mA, I_B = 10 mA
Gain bandwidth product		f_T	800	1000	—	MHz	V_{CE} = 20 V, I_C = 100 mA
Capacitor output capacitance		Cob	—	4.5	6.0	pF	V_{CB} = 30 V, I_E = 0, f = 1 MHz

See characteristic curves of 2SC4708.

Maximum Collector Power Dissipation Curve