2SC3391

Silicon NPN Epitaxial Planar

HITACHI

Application

VHF amplifier, Mixer, Local oscillator

Outline

SPAK

1. Emitter
2. Collector
3. Base

Hitachi semiconductor

Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	20	V
Emitter to base voltage	V_{EBO}	4	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

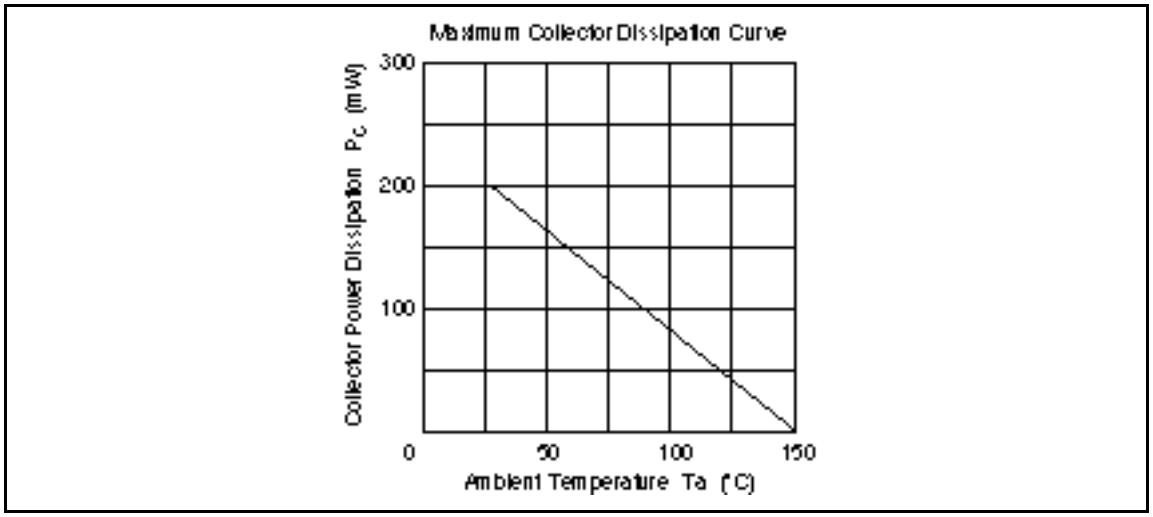
Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	30	—	—	V	I_C = 10 µA, I_E = 0
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	20	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	4	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.5	µA	V_{CB} = 10 V, I_E = 0
DC current transfer ratio	h_{FE}*[1]	60	—	200		V_{CE} = 6 V, I_C = 1 mA
Base to emitter voltage	V_{BE}	—	0.72	—	V	V_{CE} = 6 V, I_C = 1 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.17	—	V	I_C = 20 mA, I_B = 4 mA
Gain bandwidth product	f_T	450	940	—	MHz	V_{CE} = 6 V, I_C = 5 mA
Collector output capacitance	Cob	—	0.9	1.2	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz
Power gain	PG	17	20	—	dB	V_{CE} = 6 V, I_C = 1 mA, f = 100 MHz
Noise figure	NF	—	3.5	5.5	dB	V_{CE} = 6 V, I_C = 1 mA, R_g = 50 Ω, f = 100 MHz

Note: 1. The 2SC3391 is grouped by h_{FE} as follows.

B	C
60 to 120	100 to 200

See characteristic curves of 2SC535.


Maximum Collector Dissipation Curve
Collector Power Dissipation P_C (mW)
300
200
100
0
50
100
150
Ambient Temperature Ta (°C)

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