2SC3494

Silicon NPN Epitaxial Planar

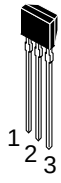
HITACHI

Application

FM RF/IF amplifier

Outline

SPAK



1. Emitter
2. Collector
3. Base

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Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	30	V
Collector to emitter voltage	V_{CEO}	30	V
Emitter to base voltage	V_{EBO}	5	V
Collector current	I_C	100	mA
Collector power dissipation	P_C	300	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	–55 to +150	°C

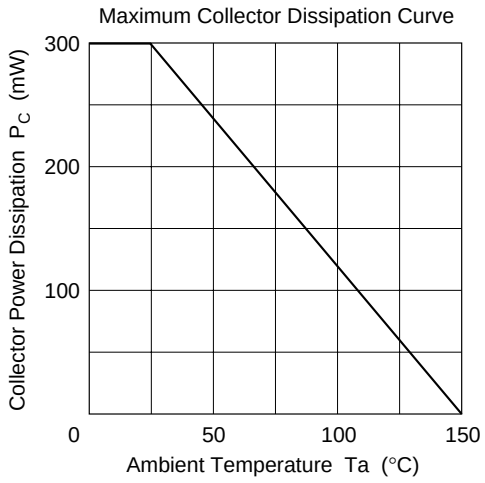
Electrical Characteristics (Ta = 25°C)

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	$V_{(BR)CEO}$	30	—	—	V	I_C = 1 mA, R_{BE} = ∞
Emitter to base breakdown voltage	$V_{(BR)EBO}$	5	—	—	V	I_E = 10 µA, I_C = 0
Collector cutoff current	I_{CBO}	—	—	0.5	µA	V_{CB} = 18 V, I_E = 0
Emitter cutoff current	I_{EBO}	—	—	0.5	µA	V_{EB} = 2 V, I_C = 0
DC current transfer ratio	h_{FE}*[1]	60	—	200		V_{CE} = 12 V, I_C = 2 mA
Base to emitter voltage	V_{BE}	—	0.63	0.75	V	V_{CE} = 12 V, I_C = 2 mA
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	0.6	1.1	V	I_C = 10 mA, I_B = 1 mA
Collector output capacitance	Cob	—	1.8	3.5	pF	V_{CB} = 10 V, I_E = 0, f = 1 MHz
Noise figure	NF	—	5.0	—	dB	V_{CE} = 6 V, I_E = –1 mA, f = 1 MHz, R_g = 500 Ω
Power gain	PG	26	29	—	dB	V_{CE} = 6 V, I_E = –1 mA, f = 10.7 MHz
		13	17	—		V_{CE} = 6 V, I_E = –1 mA, f = 100 MHz

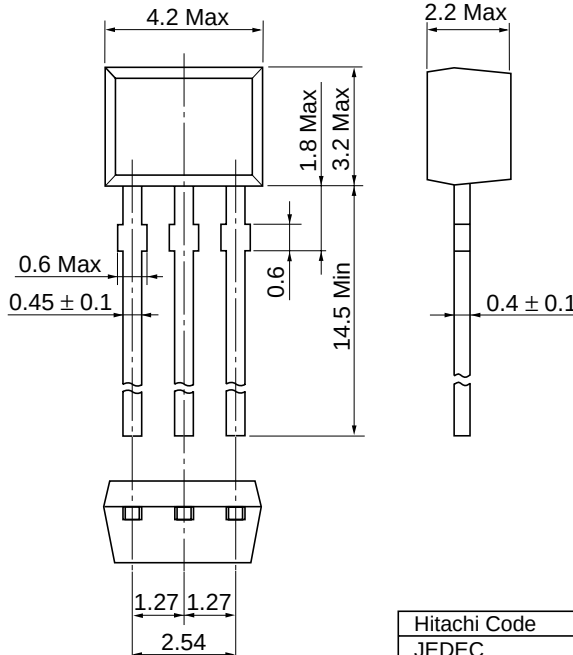
Note: 1. The 2SC3494 is grouped by h_{FE} as follows.

B	C
60 to 120	100 to 200

See characteristic curves of 2SC460.


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

Unit: mm



Hitachi Code	SPAK
JEDEC	—
EIAJ	—
Weight (reference value)	0.10 g

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