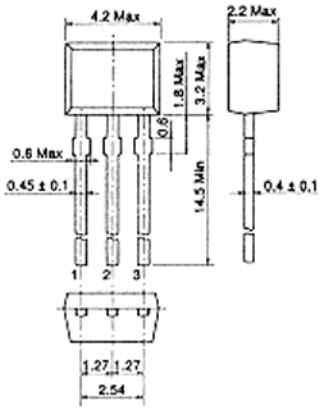
HITACHI

2SC3391

SILICON NPN EPITAXIAL PLANAR

VHF AMPLIFIER, MIXER,
LOCAL OSCILLATOR



(SPAK)

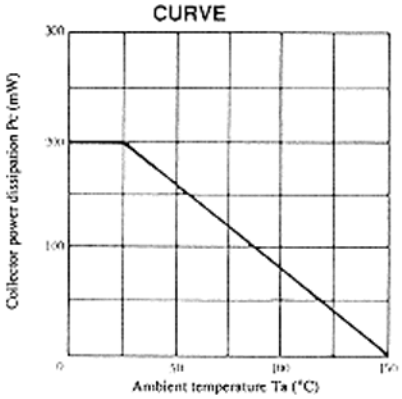
1. Emitter
2. Collector
3. Base

(Dimensions in mm)

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

Item	Symbol	2SC3391	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	T_j	150	°C
Storage temperature	T_{stg}	−55 to +150	°C

MAXIMUM COLLECTOR DISSIPATION CURVE



■ ELECTRICAL CHARACTERISTICS (Ta=25°C)

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

* The 2SC3391 is grouped by h_{FE} as follows.

B	C
60 to 120	100 to 200

■ See characteristic curves of 2SC535.