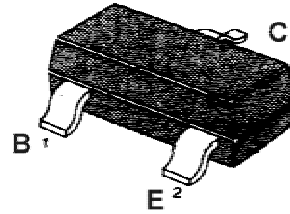

2SC2734

NPN EPITAXIAL SILICON TRANSISTOR

Application

- UHF frequency converter
- Local oscillator, wide band amplifier

SOT-23



Absolute Maximum Ratings (Ta = 25°C)

Item	Symbol	Ratings	Unit
Collector to base voltage	V_{CBO}	20	V
Collector to emitter voltage	V_{CEO}	11	V
Emitter to base voltage	V_{EBO}	3	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	150	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

Electrical Characteristics (Ta = 25°C)

Item	Symbol	Min	Typ	Max	Unit	Test conditions
Collector to base breakdown voltage	$V_{(BR)CBO}$	20	—	—	V	$I_C = 10 \mu A, I_E = 0$
Collector to emitter breakdown voltage	$V_{(BR)CEO}$	11	—	—	V	$I_C = 1 \text{ mA}, R_{BE} = \infty$
Emitter to base breakdown voltage	$V_{(BR)EBO}$	3	—	—	V	$I_E = 10 \mu A, I_C = 0$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 10 \text{ V}, I_E = 0$
Collector to emitter saturation voltage	$V_{CE(sat)}$	—	—	0.7	V	$I_C = 10 \text{ mA}, I_B = 5 \text{ mA}$
DC current transfer ratio	h_{FE}	20	90	200		$V_{CE} = 10 \text{ V}, I_C = 5 \text{ mA}$
Gain bandwidth product	f_T	1.4	3.5	—	GHz	$V_{CE} = 10 \text{ V}, I_C = 10 \text{ mA}$
Collector output capacitance	C_{ob}	—	0.9	1.5	pF	$V_{CB} = 10 \text{ V}, I_E = 0, f = 1 \text{ MHz}$
Conversion gain	CG	—	15	—	dB	$V_{CC} = 6 \text{ V}, I_C = 2 \text{ mA},$ $f = 900 \text{ MHz},$ $f_{OSC} = 930 \text{ MHz (0dBm)},$ $f_{out} = 30 \text{ MHz}$
Noise figure	NF	—	9	—	dB	$V_{CC} = 6 \text{ V}, I_C = 2 \text{ mA},$ $f = 900 \text{ MHz},$ $f_{OSC} = 930 \text{ MHz (0dBm)},$ $f_{out} = 30 \text{ MHz}$
Oscillating output voltage	V_{OSC}	—	140	—	mV	$V_{CC} = 6 \text{ V}, I_C = 5 \text{ mA},$ $f = 930 \text{ MHz}$