

DESCRIPTION The 2SB984 is designed for use in driver and output stages of audio frequency amplifiers.

- FEATURES**
- High total power dissipation and high break-down voltage : $P_T = 1.0 \text{ W}$ ($T_a = 25^\circ \text{C}$), $V_{CEO} = -80 \text{ V}$
 - Complementary to the NEC 2SC1312 NPN transistor.

ABSOLUTE MAXIMUM RATINGS

Maximum Temperatures

Storage Temperature -55 to $+150^\circ \text{C}$

Junction Temperature $+150^\circ \text{C}$ Maximum

Maximum Power Dissipation ($T_a = 25^\circ \text{C}$)

Total Power Dissipation 1.0 W

Maximum Voltages and Currents ($T_a = 25^\circ \text{C}$)

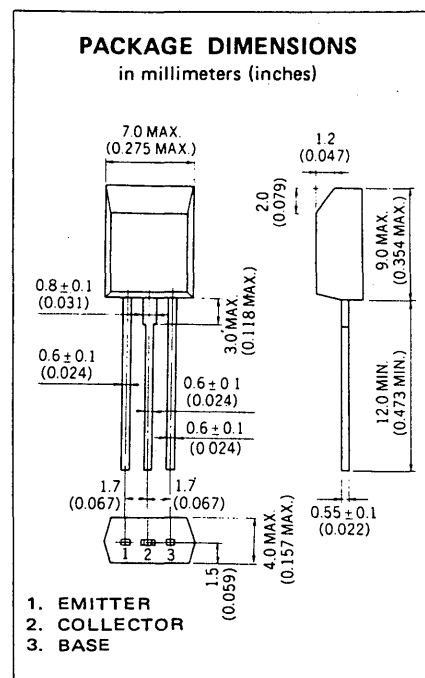
V_{CBO} Collector to Base Voltage -120 V

V_{CEO} Collector to Emitter Voltage -80 V

V_{EBO} Emitter to Base Voltage -5.0 V

$I_C (\text{DC})$ DC Collector Current -1.0 A

$I_C (\text{pulse})$ AC Collector Current -2.0 A



ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ \text{C}$)

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
h_{FE1}^*	DC Current Gain	135		400		$V_{CE} = -1.0 \text{ V}$, $I_C = -200 \text{ mA}$
h_{FE2}^*	DC Current Gain	40				$V_{CE} = -1.0 \text{ V}$, $I_C = -500 \text{ mA}$
f_T	Gain Bandwidth Product	50	100		MHz	$V_{CE} = -6.0 \text{ V}$, $I_E = 200 \text{ mA}$
C_{ob}	Output Capacitance		20	50	pF	$V_{CB} = -10 \text{ V}$, $I_E = 0$, $f = 1.0 \text{ MHz}$
I_{CBO}	Collector Cutoff Current			-100	nA	$V_{CB} = -100 \text{ V}$, $I_E = 0$
I_{EBO}	Emitter Cutoff Current			-100	nA	$V_{EB} = -5.0 \text{ V}$, $I_C = 0$
V_{BE}^*	Base to Emitter Voltage	-550	-600	-650	mV	$V_{CE} = -6.0 \text{ V}$, $I_C = -10 \text{ mA}$
$V_{CE(sat)}^*$	Collector Saturation Voltage		-0.5	-1.0	V	$I_C = -1.0 \text{ A}$, $I_B = -100 \text{ mA}$
$V_{BE(sat)}^*$	Base Saturation Voltage		-1.0	-1.2	V	$I_C = -1.0 \text{ A}$, $I_B = -100 \text{ mA}$

* Pulsed $PW \leq 300 \mu\text{s}$, duty cycle $\leq 2\%$

Classified of h_{FE1}

Rank	L	K
Range	135 - 270	200 - 400

Test Conditions: $V_{CE} = -1.0 \text{ V}$, $I_C = -200 \text{ mA}$

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)