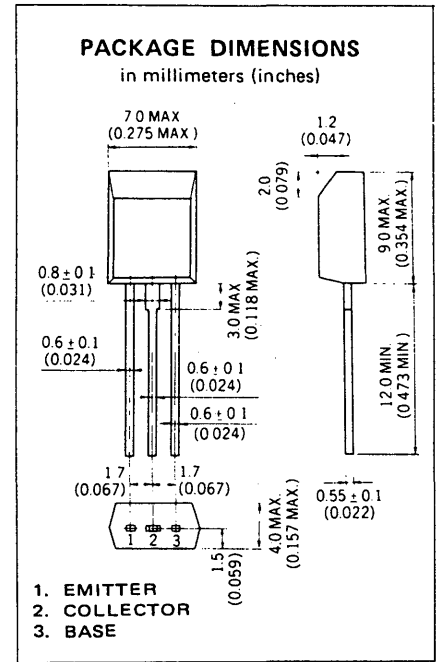


**DESCRIPTION** The 2SB733 is designed for use in driver and output stages of audio frequency amplifiers.

- FEATURES**
- High Total Power Dissipation  $P_T : 1.0 \text{ W}$  ( $T_a=25^\circ\text{C}$ )
  - High D.C. Current Gain  $h_{FE} : 300 \text{ TYP.}$  ( $I_C=-100 \text{ mA}$ )
  - Low Collector Saturation Voltage  
 $V_{CE(sat)} : -0.27 \text{ V TYP.}$  ( $I_C=-1.0 \text{ A}$ )
  - Complementary to the NEC 2SD773 NPN Transistor.

**ABSOLUTE MAXIMUM RATINGS**

- Maximum Temperatures
- Storage Temperature . . . . .  $-55 \text{ to } +150^\circ\text{C}$
  - Junction Temperature . . . . .  $150^\circ\text{C}$  Maximum
- Maximum Power Dissipation ( $T_a=25^\circ\text{C}$ )
- Total Power Dissipation . . . . .  $1.0 \text{ W}$
- Maximum Voltages and Current ( $T_a=25^\circ\text{C}$ )
- $V_{CBO}$  Collector to Base Voltage . . . . .  $-20 \text{ V}$
  - $V_{CEO}$  Collector to Emitter Voltage . . . . .  $-16 \text{ V}$
  - $V_{EBO}$  Emitter to Base Voltage . . . . .  $-6.0 \text{ V}$
  - $I_C$  Collector Current . . . . .  $-1.0 \text{ A}$



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

SYMBOL	CHARACTERISTIC	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
$h_{FE1}$	DC Current Gain	135	300	600	—	$V_{CE}=-2.0 \text{ V}, I_C=-100 \text{ mA}$
$h_{FE2}$	DC Current Gain	100			—	$V_{CE}=-1.0 \text{ V}, I_C=-1.0 \text{ A}$
$f_T$	Gain Bandwidth Product	50			MHz	$V_{CE}=-2.0 \text{ V}, I_E=10 \text{ mA}$
$C_{ob}$	Output Capacitance		27	60	pF	$V_{CB}=-10 \text{ V}, I_E=0, f=1.0 \text{ MHz}$
$I_{CBO}$	Collector Cutoff Current			-100	nA	$V_{CB}=-16 \text{ V}, I_E=0$
$I_{EBO}$	Emitter Cutoff Current			-100	nA	$V_{EB}=-6.0 \text{ V}, I_C=0$
$V_{BE}$	Base to Emitter Voltage	-0.55	-0.60	-0.65	V	$V_{CE}=-6.0 \text{ V}, I_C=-5.0 \text{ mA}$
$V_{CE(sat)}$	Collector Saturation Voltage		-0.27	-0.40	V	$I_C=-1.0 \text{ A}, I_B=-50 \text{ mA}$
$V_{BE(sat)}$	Base Saturation Voltage		-0.94	-1.20	V	$I_C=-1.0 \text{ A}, I_B=-50 \text{ mA}$

Classification of  $h_{FE1}$

Rank	L <sub>2</sub>	K <sub>3</sub>	K <sub>4</sub>	U <sub>4</sub>	U <sub>5</sub>
Range	135 - 270	200 - 320	250 - 400	300 - 480	360 - 600

Test Conditions :  $V_{CE}=-2.0 \text{ V}, I_C=-100 \text{ mA}$

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

