

## APPLICATIONS

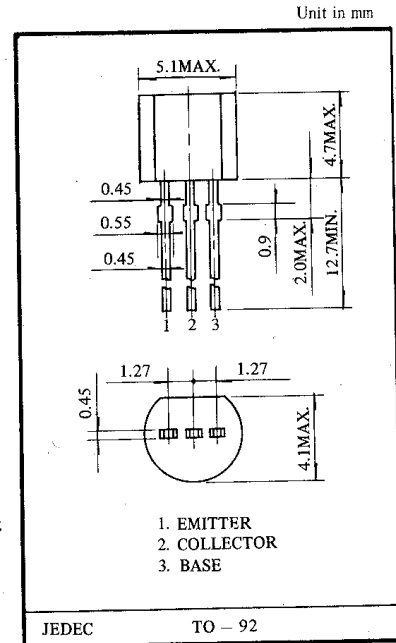
- Low Noise Audio Amplifier Applications.

## FEATURES

The 2SC3200 is a transistor for low frequency and low noise applications. This device is designed to lower noise figure in the region of low signal source impedance, and to lower the pulse noise.

This is recommended for the first stages of EQ amplifiers.

- Low Noise
  - :NF=4dB(Typ.),  $R_g=100\Omega$ ,  $V_{CE}=6V$ ,  $I_C=100\mu A$ ,  $f=1KHz$
  - :NF=0.5dB(Typ.),  $R_g=1K\Omega$ ,  $V_{CE}=6V$ ,  $I_C=100\mu A$ ,  $f=1KHz$
- Low Pulse Noise: Low 1/f Noise
- High DC Current Gain:  $h_{FE}=200\sim 700$
- High Breakdown Voltage:  $V_{CEO}=120V$



## MAXIMUM RATINGS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT	CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	$V_{CBO}$	120	V	Emitter Current	$I_E$	-100	mA
Collector-Emitter Voltage	$V_{CEO}$	120	V	Collector Power Dissipation	$P_C$	300	mW
Emitter-Base Voltage	$V_{EBO}$	5	V	Junction Temperature	$T_j$	125	$^\circ C$
Collector Current	$I_C$	100	mA	Storage Temperature Range	$T_{stg}$	-55 ~ 125	$^\circ C$

## ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ C$ )

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=120V$ , $I_E=0$	-	-	100	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{EB}=5V$ , $I_C=0$	-	-	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C=1mA$ , $I_B=0$	120	-	-	V
DC Current Gain	$h_{FE}(\text{Note})$	$V_{CE}=6V$ , $I_C=2mA$	200	-	700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=10mA$ , $I_B=1mA$	-	-	0.3	V
Base-Emitter Voltage	$V_{BE}$	$V_{CE}=6V$ , $I_C=2mA$	-	0.65	-	V
Transition Frequency	$f_T$	$V_{CE}=6V$ , $I_C=1mA$	-	100	-	MHz
Collector Output Capacitance	$C_{ob}$	$V_{CB}=10V$ , $I_E=0$ , $f=1MHz$	-	3.0	-	pF
Noise Figure	NF	$V_{CE}=6V$ , $I_C=100\mu A$ , $f=10Hz$ , $R_g=10k\Omega$	-	-	6	dB
		$V_{CE}=6V$ , $I_C=100\mu A$ , $f=1kHz$ , $R_g=10K\Omega$	-	-	2	
		$V_{CE}=6V$ , $I_C=100\mu A$ , $f=1kHz$ , $R_g=100\Omega$	-	4	-	

**NOTE: According to  $h_{FE}$ , Classified as follows.**

GR	200-400	BL	350-700
----	---------	----	---------