



**Shantou Huashan Electronic Devices Co.,Ltd.**

NPN SILICON TRANSISTOR

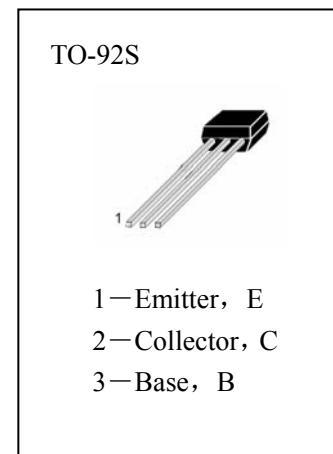
**HX3199**

## ■ APPLICATIONS

Small power amplifier.

## ■ ABSOLUTE MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

$T_{stg}$ —Storage Temperature.....	-55~150°C
$T_j$ —Junction Temperature.....	150°C
$P_C$ —Collector Dissipation.....	200mW
$V_{CBO}$ —Collector-Base Voltage.....	50V
$V_{CEO}$ —Collector-Emitter Voltage.....	50V
$V_{EBO}$ —Emitter-Base Voltage.....	5V
$I_C$ —Collector Current.....	150mA



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

Symbol	Characteristics	Min	Typ	Max	Unit	Test Conditions
BVCBO	Collector-Base Breakdown Voltage	50			V	$I_C=10 \mu \text{A}, I_E=0$
BVCEO	Collector-Emitter Breakdown Voltage	50			V	$I_C=100 \mu \text{A}, I_B=0$
ICBO	Collector Cut-off Current			0. 1	$\mu \text{A}$	$V_{CB}=50\text{V}, I_E=0$
IEBO	Emitter Cut-off Current			0. 1	$\mu \text{A}$	$V_{EB}=5\text{V}, I_C=0$
HFE	DC Current Gain	70		700		$V_{CE}=6\text{V}, I_C=2\text{mA}$
VCE(sat)	Collector- Emitter Saturation Voltage		0. 1	0. 25	V	$I_C=100\text{mA}, I_B=10\text{mA}$
f <sub>T</sub>	Current Gain-Bandwidth Product	80			MHz	$V_{CE}=6\text{V}, I_C=10\text{mA}$
C <sub>ob</sub>	Output Capacitance		2. 0	3. 5	pF	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$
NF	Noise Figure		1. 0	10	dB	$V_{CE}=6\text{V}, I_C=100 \mu \text{A}$ $f=1\text{KHz}, R_g=10\text{K} \Omega$

## ■ h<sub>FE</sub> Classification

O	Y	GR	BL
70—140	120—240	200—400	350—700