# Transistors
# BC550

USHA (INDIA) LTD

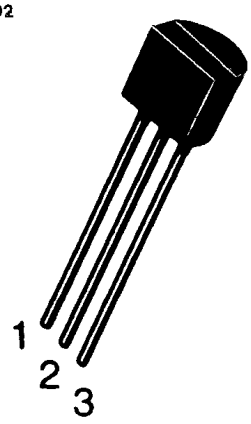
## SWITCHING AND AF AMPLIFIER

- **LOW NOISE:** BC550

## ABSOLUTE MAXIMUM RATINGS ($T_a$=25°C)

| Characteristic | Symbol | Rating | Unit |
|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | 50 | V |
| Collector Emitter Voltage | $V_{CEO}$ | 45 | V |
| Emitter-Base Voltage | $V_{EBO}$ | 5 | V |
| Collector Current (DC) | $I_C$ | 100 | mA |
| Collector Dissipation | $P_C$ | 500 | mW |
| Junction Temperature | Tj | 150 | °C |
| Storage Temperature | Tstg | −65~150 | °C |

TO-92




1.Collector 2. Base 3. Emitter

## ELECTRICAL CHARACTERISTICS ($T_a$=25°C)

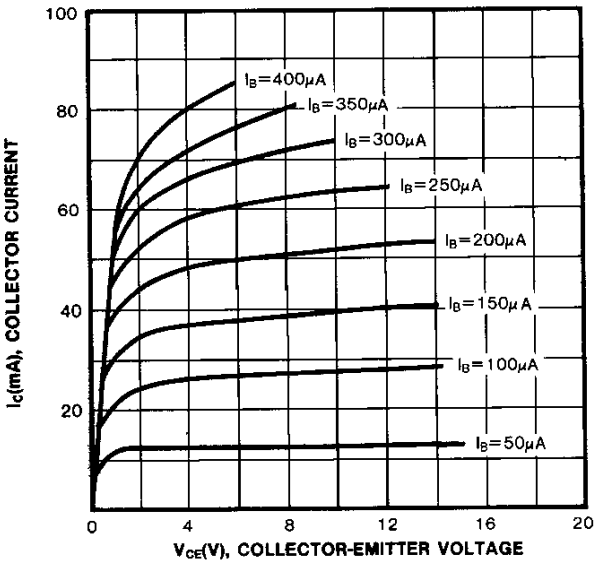
| Characteristic | Symbol | Test Condition | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=30V, $I_E$=0 | | | 15 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=5V, $I_C$=2mA | 110 | | 800 | |
| Collector Emitter Saturation Voltage | $V_{CE}$(sat) | $I_C$=10mA, $I_B$=0.5mA | | 90 | 250 | mV |
| | | $I_C$=100mA, $I_B$=5mA | | 200 | 600 | mV |
| Collector Base Saturation Voltage | $V_{BE}$(sat) | $I_C$=10mA, $I_B$=0.5mA | | 700 | | mV |
| | | $I_C$=100mA, $I_B$=5mA | | 900 | | mV |
| Base Emitter On Voltage | $V_{BE}$(on) | $V_{CE}$=5V, $I_C$=2mA | 580 | 660 | 700 | mV |
| | | $V_{CE}$=5V, $I_C$=10mA | | | 720 | mV |
| Current Gain Bandwidth Product | $f_T$ | $V_{CE}$=5V, $I_C$=10mA, f=100MHz | | 300 | | MHz |
| Collector Base Capacitance | $C_{CBO}$ | $V_{CB}$=10V, f=1MHz | | 3.5 | 6 | pF |
| Emitter Base Capacitance | $C_{EBO}$ | $V_{EB}$=0.5V, f=1MHz | | 9 | | pF |
| Noise Figure | NF | $V_{CE}$=5V, $I_C$=200μA, f=1KHz $R_g$=2kohm | | 1.2 | 4 | dB |
| | NF | $V_{CE}$=5V, $I_C$=200μA $R_g$=2kohm, f=30~15000Hz | | 1.4 | 3 | dB |

## $h_{FE}$ CLASSIFICATION

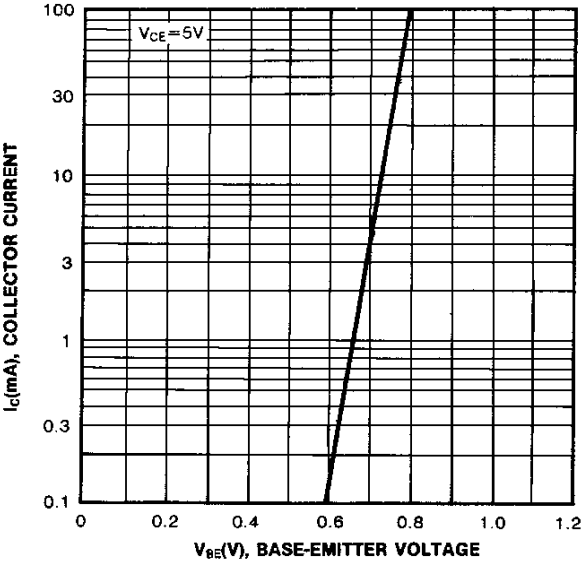
| Classification | A | B | C |
|---|---|---|---|
| $h_{FE}$ | 110-220 | 200-450 | 420-800 |

ISO 14001 CERTIFIED
AN ISO 9002 COMPANY

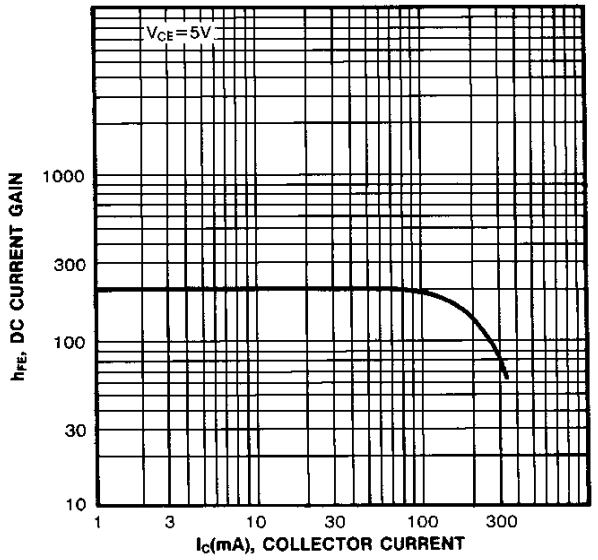
### STATIC CHARACTERISTIC



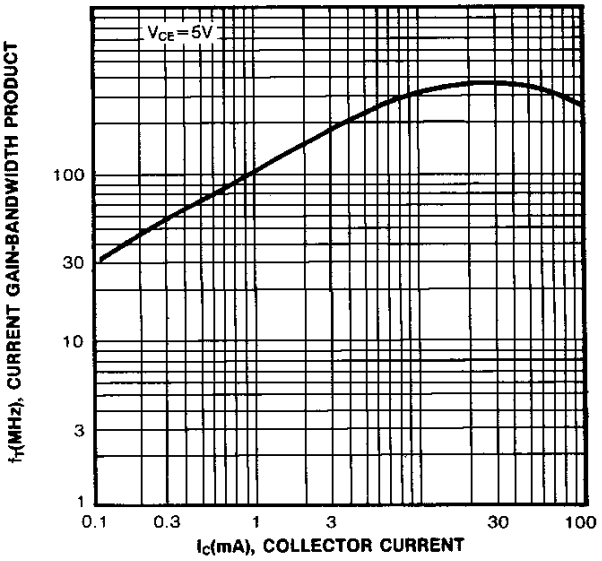

### TRANSFER CHARACTERISTIC



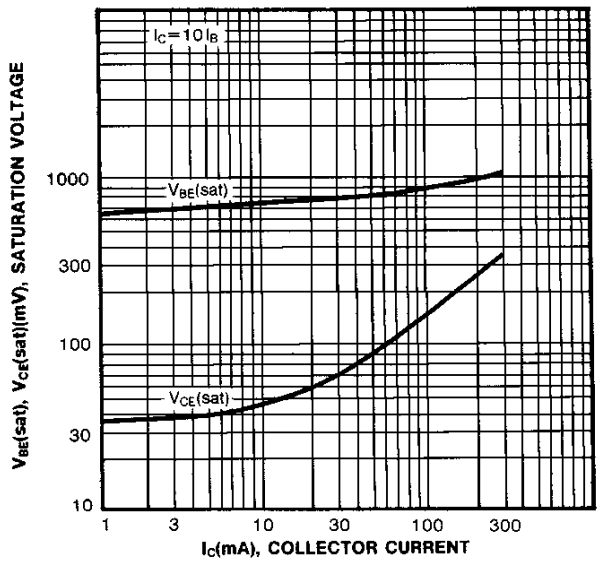

### DC CURRENT GAIN




### CURRENT GAIN BANDWIDTH PRODUCT




### BASE-EMITTER SATURATION VOLTAGE
### COLLECTOR-EMITTER SATURATION VOLTAGE




### OUTPUT CAPACITANCE