

# Transistors

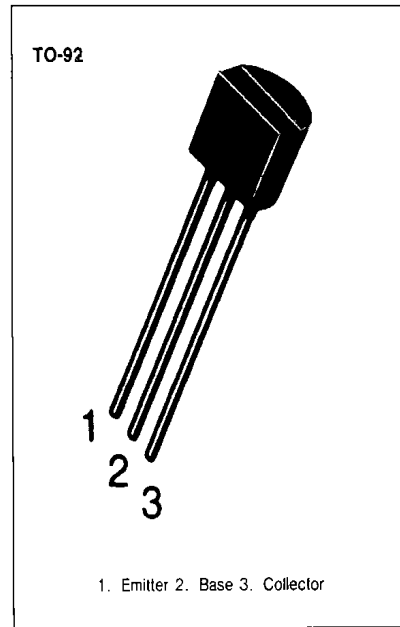
## 2SB564A

### AUDIO FREQUENCY POWER AMPLIFIER

- Collector Current  $I_C = -1A$
- Collector Dissipation  $P_C = 800mW$

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

| Characteristic            | Symbol    | Rating    | Unit       |
|---------------------------|-----------|-----------|------------|
| Collector-Base Voltage    | $V_{CBO}$ | -30       | V          |
| Collector-Emitter Voltage | $V_{CEO}$ | -25       | V          |
| Emitter-Base Voltage      | $V_{EBO}$ | -5        | V          |
| Collector Current         | $I_C$     | -1.0      | A          |
| Collector Dissipation     | $P_C$     | 800       | mW         |
| Junction Temperature      | $T_J$     | 150       | $^\circ C$ |
| Storage Temperature       | $T_{stg}$ | -55 ~ 150 | $^\circ C$ |



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

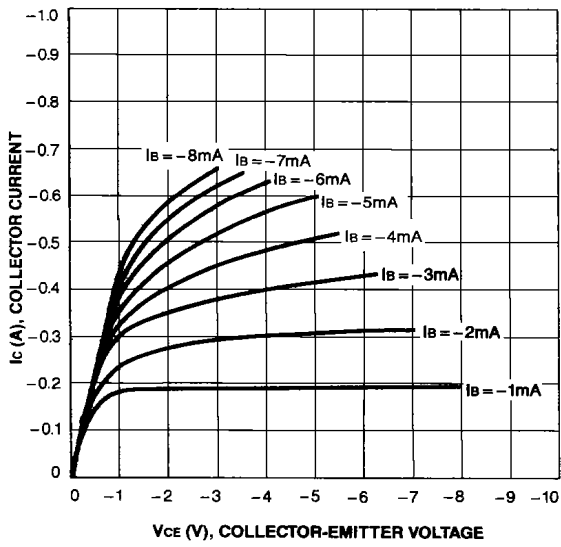
| Characteristic                       | Symbol        | Test Conditions                    | Min | Typ | Max  | Unit    |
|--------------------------------------|---------------|------------------------------------|-----|-----|------|---------|
| Collector-Base Breakdown Voltage     | $BV_{CBO}$    | $I_C = -100\mu A, I_E = 0$         | -30 |     |      | V       |
| Collector-Emitter Breakdown Voltage  | $BV_{CEO}$    | $I_C = -10mA, I_B = 0$             | -25 |     |      | V       |
| Emitter-Base Breakdown Voltage       | $BV_{EBO}$    | $I_E = -100\mu A, I_C = 0$         | -5  |     |      | V       |
| Collector Cut-off Current            | $I_{CBO}$     | $V_{CB} = -30V, I_E = 0$           |     |     | -0.1 | $\mu A$ |
| DC Current Gain                      | $h_{FE}$      | $V_{CE} = -1V, I_C = -100mA$       | 70  |     | 400  |         |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C = -1A, I_B = -0.1A$           |     |     | -0.5 | V       |
| Base-Emitter Saturation Voltage      | $V_{BE(sat)}$ | $I_C = -1A, I_B = -0.1A$           |     |     | -1.2 | V       |
| Current-Gain-Bandwidth Product       | $f_T$         | $V_{CE} = -6V, I_C = -10mA$        |     | 110 |      | MHz     |
| Output Capacitance                   | $C_{ob}$      | $V_{CB} = -6V, f = 1 MHz, I_E = 0$ |     | 18  |      | pF      |

### $h_{FE}$ CLASSIFICATION

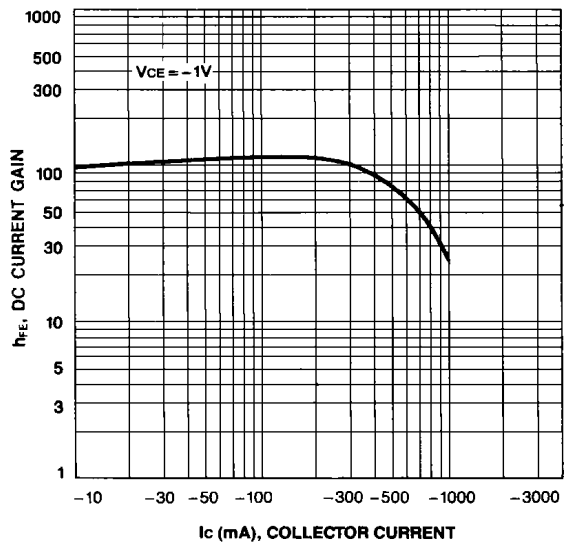
| Classification | O      | Y       | G       |
|----------------|--------|---------|---------|
| $h_{FE}$       | 70-140 | 120-240 | 200-400 |



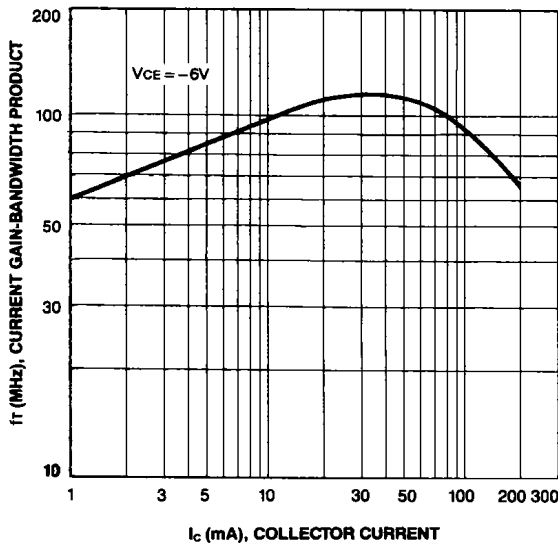
**STATIC CHARACTERISTIC**



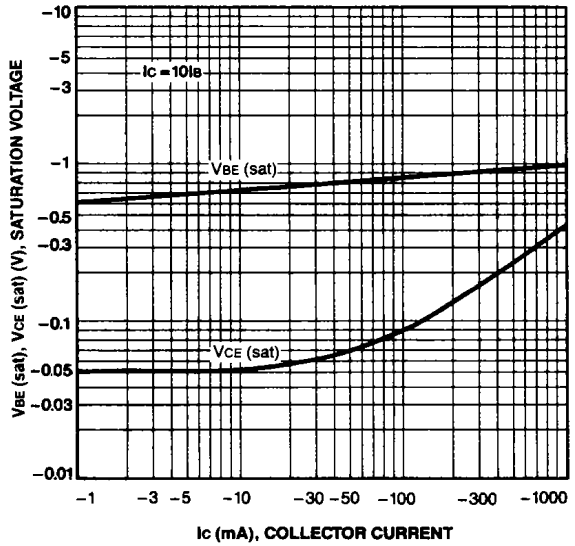
**DC CURRENT GAIN**



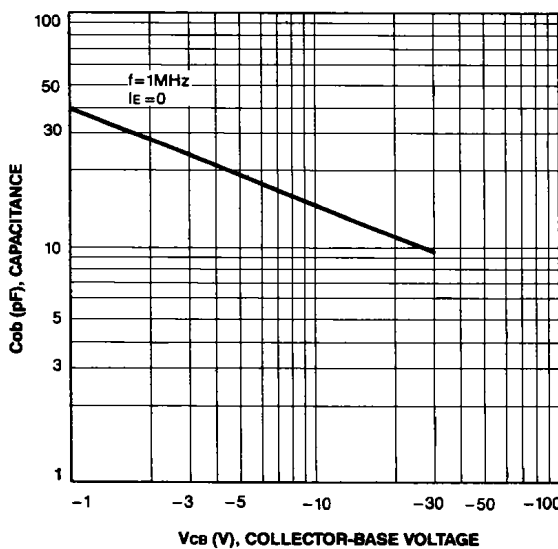
**CURRENT GAIN-BANDWIDTH PRODUCT**



**BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE**



**COLLECTOR OUTPUT CAPACITANCE**



**SAFE OPERATING AREA**

