

# GESD880

## NPN EPITAXIAL PLANAR TRANSISTOR

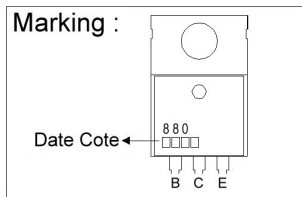
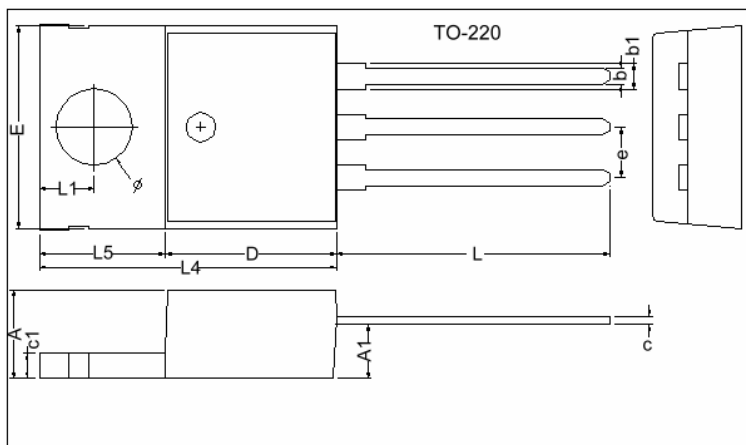
### Description

The GESD880 is designed for audio frequency power amplifier application.

### Features

- High DC Current Gain:  $h_{FE} = 300$  (Max.) @  $V_{CE} = 5V$ ,  $I_C = 0.5A$
- Low Saturation Voltage:  $V_{CE(sat)} = 1.0V$  (Max.) @  $I_C = 3A$ ,  $I_B = 0.3A$

### Package Dimensions



| REF. | Millimeter |      | REF. | Millimeter |       |
|------|------------|------|------|------------|-------|
|      | Min.       | Max. |      | Min.       | Max.  |
| A    | 4.40       | 4.80 | c1   | 1.25       | 1.45  |
| b    | 0.76       | 1.00 | b1   | 1.17       | 1.47  |
| c    | 0.36       | 0.50 | L    | 13.25      | 14.25 |
| D    | 8.60       | 9.00 | e    | 2.54 REF.  |       |
| E    | 9.80       | 10.4 | L1   | 2.60       | 2.89  |
| L4   | 14.7       | 15.3 | Ø    | 3.71       | 3.96  |
| L5   | 6.20       | 6.60 | A1   | 2.60       | 2.80  |

### Absolute Maximum Ratings ( $T_A=25^{\circ}C$ )

| Parameter                                         | Symbol    | Ratings    | Unit        |
|---------------------------------------------------|-----------|------------|-------------|
| Collector to Base Voltage                         | $V_{CBO}$ | 80         | V           |
| Collector to Emitter Voltage                      | $V_{CEO}$ | 62         | V           |
| Emitter to Base Voltage                           | $V_{EBO}$ | 7          | V           |
| Collector Current                                 | $I_C$     | 3          | A           |
| Collector Power Dissipation ( $T_A=25^{\circ}C$ ) | $P_D$     | 1.5        | W           |
| Collector Power Dissipation ( $T_C=25^{\circ}C$ ) | $P_D$     | 25         | W           |
| Junction Temperature                              | $T_J$     | 150        | $^{\circ}C$ |
| Storage Temperature                               | $T_{stg}$ | -55 ~ +150 | $^{\circ}C$ |

### Electrical Characteristics ( $T_A = 25^{\circ}C$ unless otherwise noted)

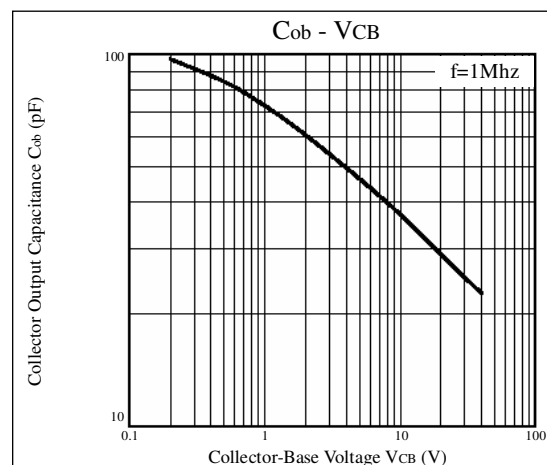
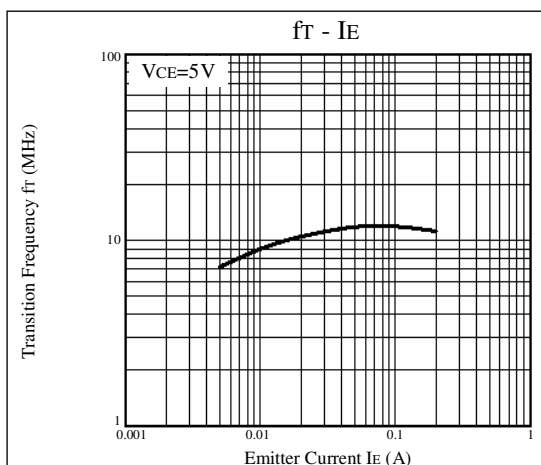
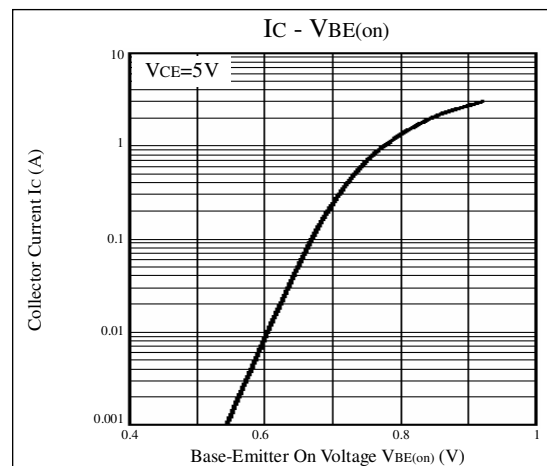
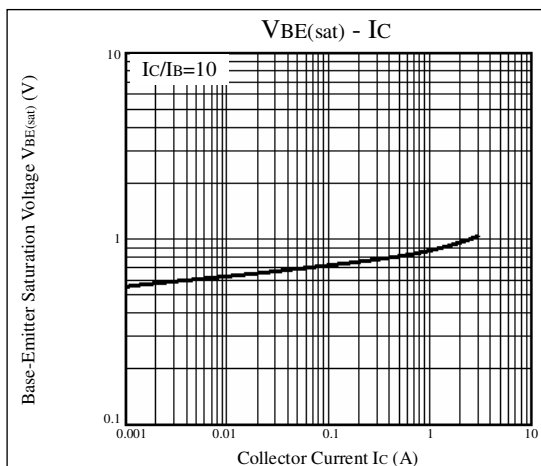
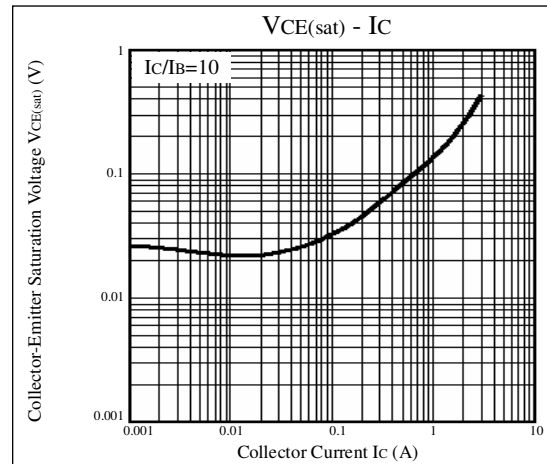
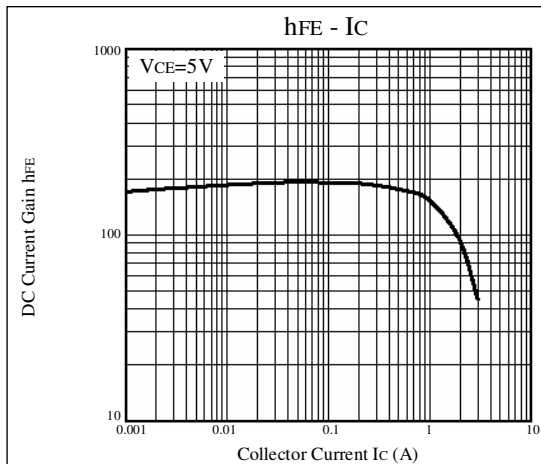
| Symbol          | Min. | Typ. | Max. | Unit    | Test Conditions                   |
|-----------------|------|------|------|---------|-----------------------------------|
| $BV_{CBO}$      | 80   | -    | -    | V       | $I_C=100\mu A$ , $I_E=0$          |
| $BV_{CEO}$      | 62   | -    | -    | V       | $I_C=50mA$ , $I_B=0$              |
| $BV_{EBO}$      | 7    | -    | -    | V       | $I_E=100\mu A$ , $I_C=0$          |
| $I_{CBO}$       | -    | -    | 10   | $\mu A$ | $V_{CB}=80V$ , $I_E=0$            |
| $I_{EBO}$       | -    | -    | 10   | $\mu A$ | $V_{EB}=7V$ , $I_C=0$             |
| * $V_{CE(sat)}$ | -    | -    | 1.0  | V       | $I_C=3A$ , $I_B=0.3A$             |
| * $V_{BE(sat)}$ | -    | -    | 1.5  | V       | $I_C=2A$ , $I_B=0.2A$             |
| * $V_{BE(ON)}$  | -    | -    | 1.0  | V       | $V_{CE}=5V$ , $I_C=500mA$         |
| * $h_{FE}$      | 60   | -    | 300  |         | $V_{CE}=5V$ , $I_C=0.5A$          |
| $f_T$           | -    | 8    | -    | MHz     | $V_{CE}=5V$ , $I_E=-0.5A$         |
| $C_{ob}$        | -    | 40   | -    | pF      | $V_{CB}=10V$ , $I_E=0$ , $f=1MHz$ |

\*Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

### Classification Of $h_{FE}$

| Rank  | O        | Y         | GR        |
|-------|----------|-----------|-----------|
| Range | 60 ~ 120 | 100 ~ 200 | 150 ~ 300 |

## Characteristics Curve



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