

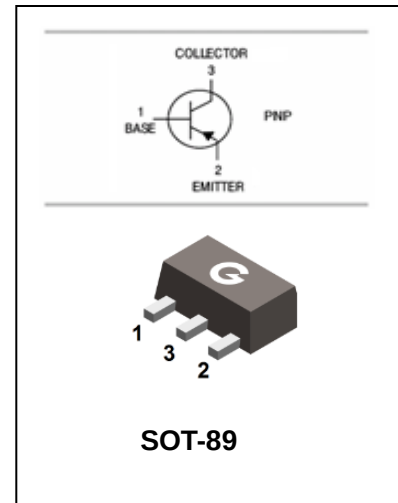
## PNP Silicon Epitaxial Planar Transistor

**B772**

### FEATURES

- Low speed switching
- Low saturation voltage
- Excellent  $h_{FE}$  linearity and high  $h_{FE}$
- Complementary: D882

**HF**



### APPLICATIONS

- Audio frequency power amplifier

### ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| B772     | B772    | SOT-89       |

### MAXIMUM RATING @ Ta=25°C unless otherwise specified

| Symbol          | Parameter                                  | Value       | Units |
|-----------------|--------------------------------------------|-------------|-------|
| $V_{CBO}$       | Collector-Base Voltage                     | -40         | V     |
| $V_{CEO}$       | Collector-Emitter Voltage                  | -30         | V     |
| $V_{EBO}$       | Emitter-Base Voltage                       | -5          | V     |
| $I_C$           | Collector Current -Continuous              | -3          | A     |
| $I_{CM}$        | Peak Collector Current                     | -5          | A     |
| $P_C$           | Collector Dissipation                      | 500         | mW    |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient Air | 250         | °C/W  |
| $R_{\theta JA}$ | Thermal Resistance Junction-to-Air *1      | 70          | °C/W  |
| $R_{\theta JC}$ | Thermal Resistance Junction-to-Case *1     | 40          | °C/W  |
| $R_{\theta JL}$ | Thermal Resistance Junction-to-Lead *1     | 30          | °C/W  |
| $T_j, T_{stg}$  | Junction and Storage Temperature           | -55 to +150 | °C    |

Note 1: The data tested by surface mounted on a 1 inch<sup>2</sup> FR-4 board with 2OZ copper

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### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter                            | Symbol        | Test conditions                    | MIN | TYP  | MAX  | UNIT    |
|--------------------------------------|---------------|------------------------------------|-----|------|------|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E = 0$         | -40 |      |      | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -10mA, I_B = 0$             | -30 |      |      | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -100\mu A, I_C = 0$         | -6  |      |      | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -40V, I_B = 0$           |     |      | -1   | $\mu A$ |
| Collector cut-off current            | $I_{CEO}$     | $V_{CB} = -30V, I_E = 0$           |     |      | -1   | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -6V, I_C = 0$            |     |      | -1   | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -2V, I_C = -1A$          | 60  | 160  | 400  |         |
|                                      |               | $V_{CE} = -2V, I_C = -20mA$        | 30  | 220  |      |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -2A, I_B = -0.2A$           |     | -0.3 | -0.5 | V       |
| Base-emitter saturation voltage      | $V_{BE(sat)}$ | $I_C = -2A, I_B = -0.2A$           |     | -1.0 | -2.0 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = -5V, I_C = -0.1A$        |     | 80   |      | MHz     |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$ |     | 55   |      | pF      |

### CLASSIFICATION OF $h_{FE}$

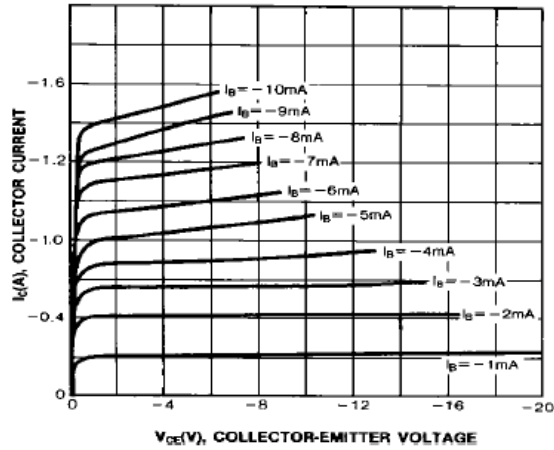
| Rank  | R      | O       | Y       | G       |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

# PNP Silicon Epitaxial Planar Transistor

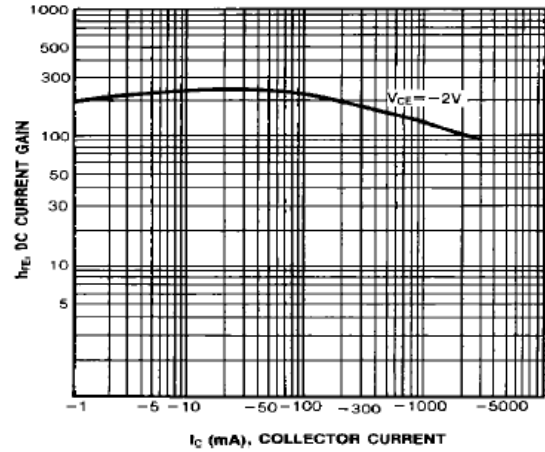
**B772**

TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

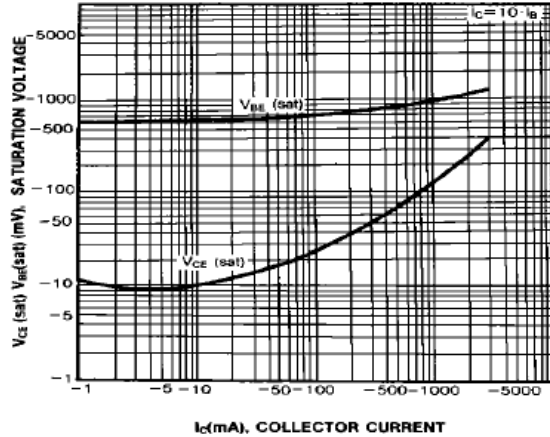
STATIC CHARACTERISTIC



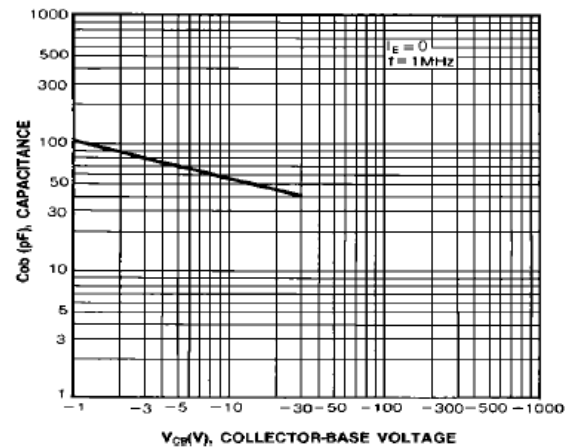
DC CURRENT GAIN



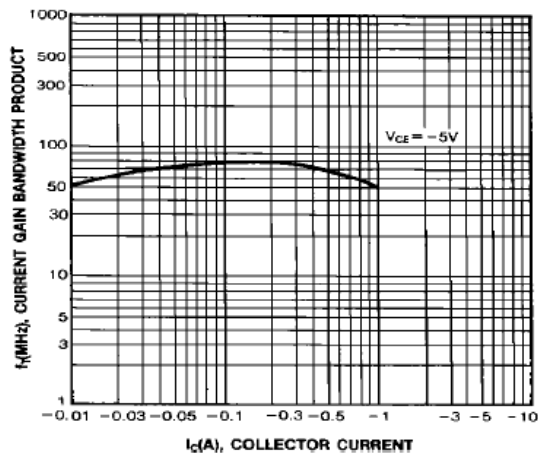
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



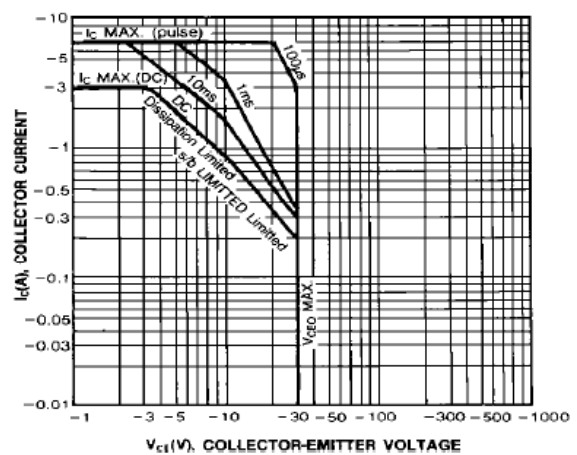
COLLECTOR OUTPUT CAPACITANCE



CURRENT GAIN-BANDWIDTH PRODUCT



SAFE OPERATING AREA



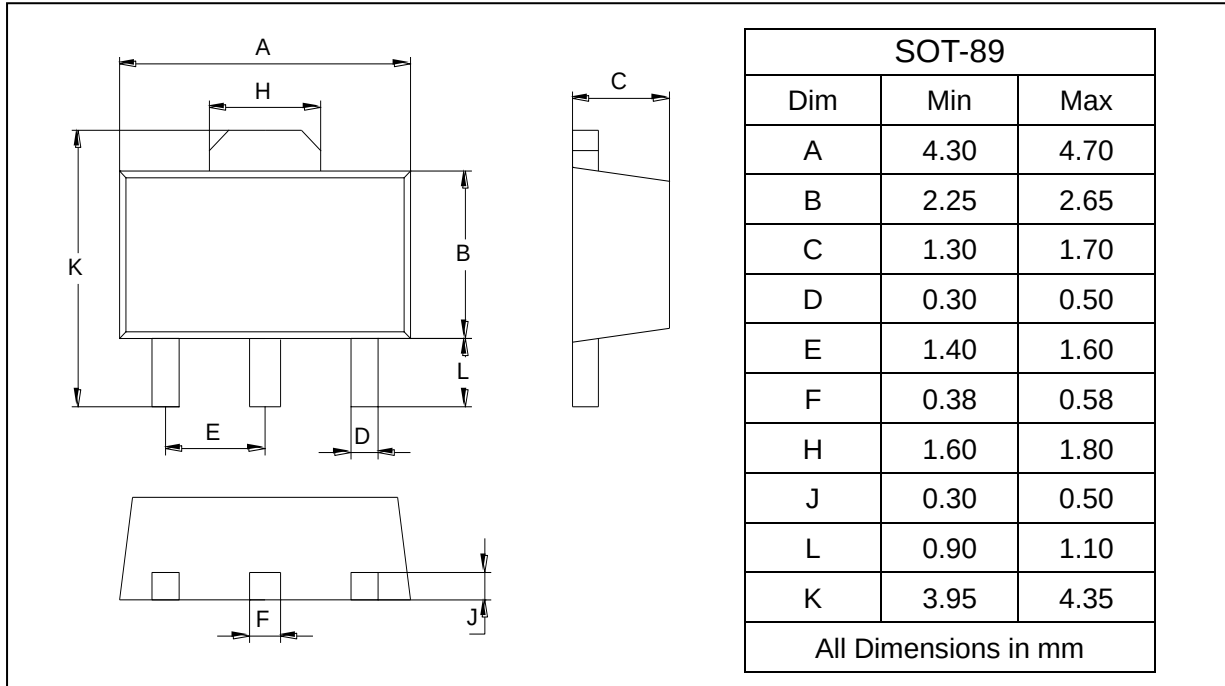
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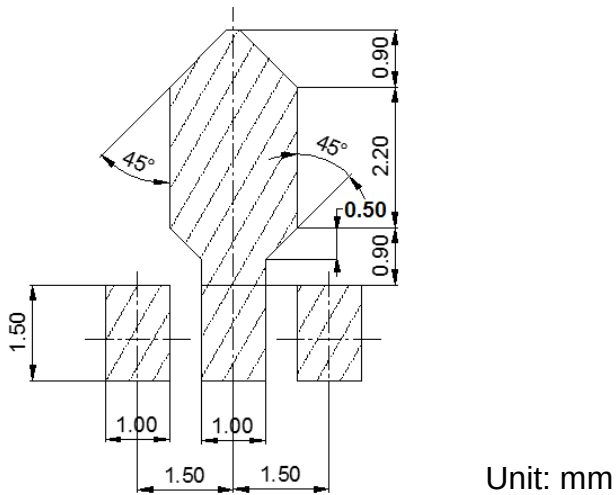
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-89



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Device | Package | Shipping               |
|--------|---------|------------------------|
| B772   | SOT-89  | 1000 pcs / Tape & Reel |