

# GSTM772

## PNP Epitaxial Planar Transistors

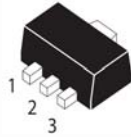
### Product Description

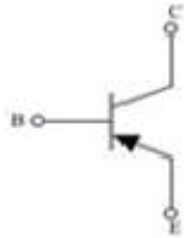
This device is designed as a general purpose amplifier and switch.

### Features

- Lead(Pb)-Free

### Packages & Pin Assignments

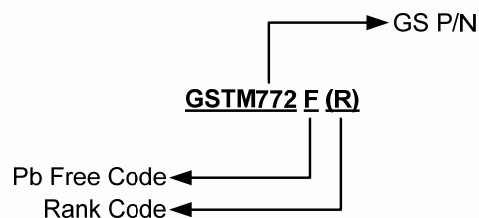
| SOT-89   |                    |
|--|--------------------|
|  |                    |
| <b>Pin</b>   | <b>Description</b> |
| 1  | Base               |
| 2  | Collector          |
| 3  | Emitter            |



### Marking Information

| P/N      | Package | Rank                   | Part Marking |
|----------|---------|------------------------|--------------|
| GSTM772F | SOT-89  | (R) / (O) / (Y) / (GR) | B772         |

### Ordering Information



| Part Number                 | Package | Quantity |
|-----------------------------|---------|----------|
| GSTM772F(R or O or Y or GR) | SOT-89  | 1000 PCS |

## Absolute Maximum Ratings

$T_A=25^\circ\text{C}$

| Symbol          | Conditions                                      | Typical     | Unit               |
|-----------------|---|-------------|--------------------|
| $V_{CEO}$       | Collector-Emitter Voltage                       | -30         | V                  |
| $V_{CBO}$       | Collector-Base Voltage                          | -40         | V                  |
| $V_{EBO}$       | Emitter-Base Voltage                            | -5.0        | V                  |
| $I_{C(DC)}$     | Collector Current (DC)                          | -3.0        | A                  |
| $P_D$           | Total Device Dissipation $T_A=25^\circ\text{C}$ | 0.5         | W                  |
| $R_{\theta JA}$ | Thermal Resistance Junction to Ambient          | 250         | $^\circ\text{C/W}$ |
| $T_J$           | Junction Temperature Range                      | 150         | $^\circ\text{C}$   |
| $T_{STG}$       | Storage Temperature Range                       | -55 to +150 | $^\circ\text{C}$   |

## Electrical Characteristics

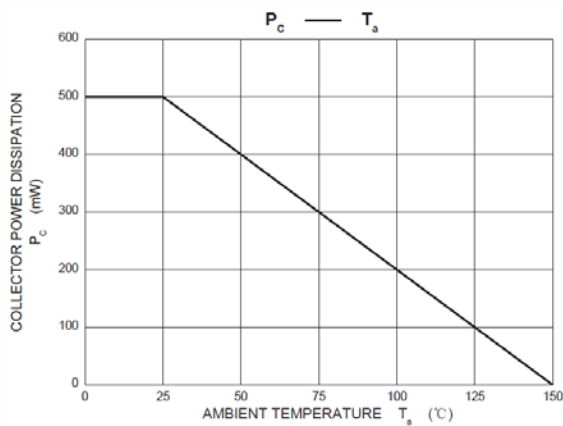
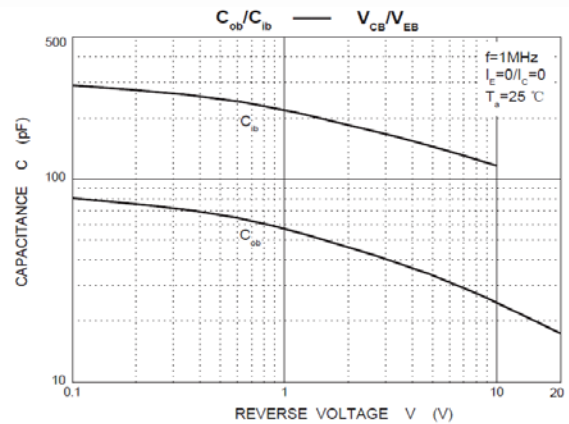
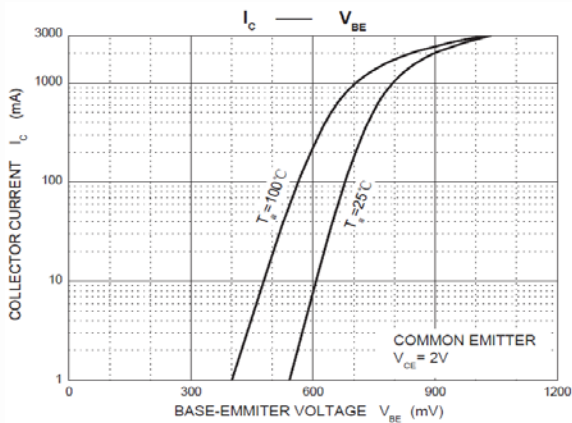
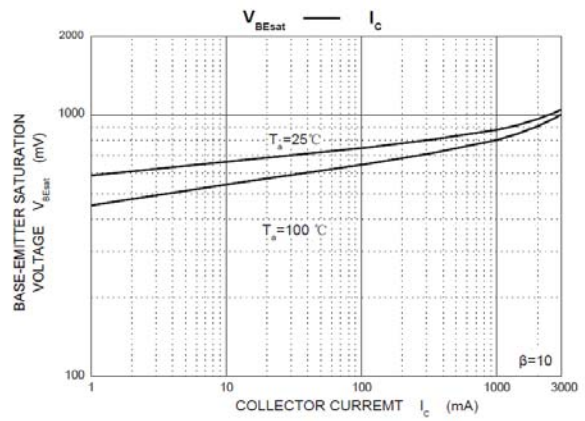
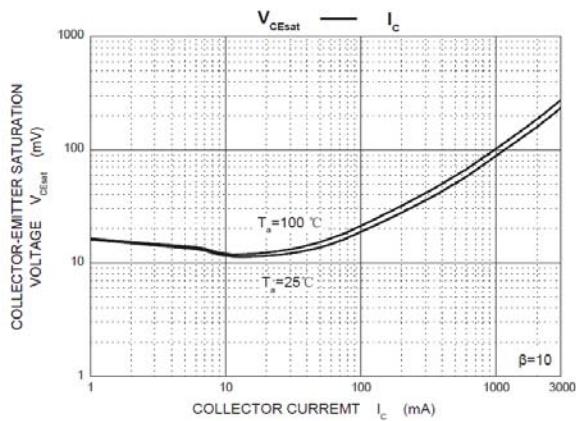
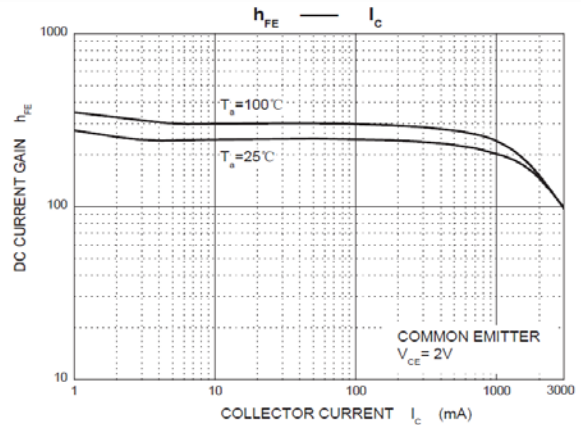
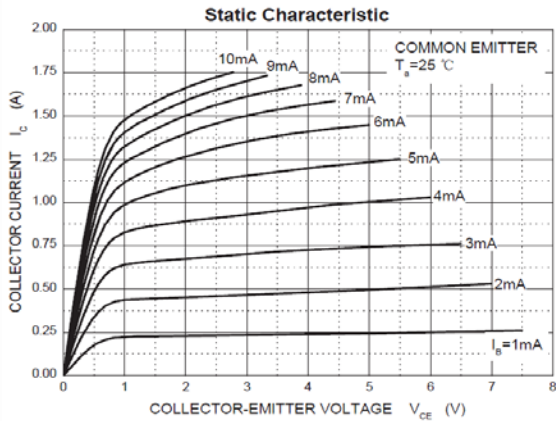
( $T_A=25^\circ\text{C}$  unless otherwise noted)

| Symbol        | Conditions  | Min  | TYP | Max  | Unit          |
|---------------|---|------|-----|------|---------------|
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage<br>( $I_C=-10\text{mA}$ , $I_B=0\text{mA}$ )                    | -30  | -   | -    | V             |
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage<br>( $I_C=-100\mu\text{A}$ , $I_E=0\text{mA}$ )                    | -40  | -   | -    | V             |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage<br>( $I_E=-100\mu\text{A}$ , $I_C=0\text{mA}$ )                      | -5.0 | -   | -    | V             |
| $I_{CEO}$     | Collector Cutoff Current<br>( $V_{CE}=-30\text{V}$ , $I_B=0\text{mA}$ )                             | -    | -   | -10  | $\mu\text{A}$ |
| $I_{CBO}$     | Collector Cutoff Current<br>( $V_{CB}=-40\text{V}$ , $I_E=0\text{mA}$ )                             | -    | -   | -1.0 | $\mu\text{A}$ |
| $I_{EBO}$     | Emitter Cutoff Current<br>( $V_{EB}=-6.0\text{V}$ , $I_C=0\text{mA}$ )                              | -    | -   | -1.0 | $\mu\text{A}$ |
| $h_{FE}$      | DC Current Gain<br>( $I_C=-1.0\text{A}$ , $V_{CE}=-2.0\text{V}$ )                                   | 60   | -   | 400  | -             |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage<br>( $I_C=-2.0\text{A}$ , $I_B=-0.2\text{A}$ )                 | -    | -   | -0.5 | V             |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage<br>( $I_C=-2.0\text{A}$ , $I_B=-0.2\text{A}$ )                      | -    | -   | -1.5 | V             |
| $f_T$         | Current-Gain-Bandwidth Product<br>( $I_C=-0.1\text{A}$ , $V_{CE}=-5.0\text{V}$ , $f=10\text{MHz}$ ) | -    | 80  | -    | MHz           |

## Classification of $h_{FE}$

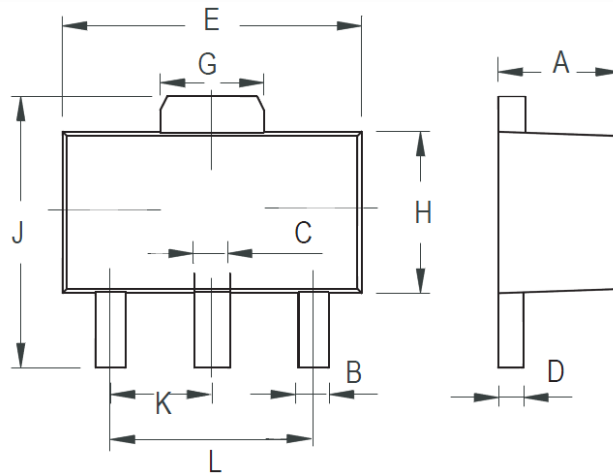
| Rank  | R      | O       | Y       | GR      |
|-------|--------|---------|---------|---------|
| Range | 60-120 | 100-200 | 160-320 | 200-400 |

# Typical Performance Characteristics



## Package Dimension

### SOT-89







### Dimensions

| Symbol   | Millimeters |       | Inches    |        |
|----------|-------------|-------|-----------|--------|
|          | Min         | Max   | Min       | Max    |
| <b>A</b> | 1.400       | 1.600 | 0.0551    | 0.0629 |
| <b>B</b> | 0.320       | 0.520 | 0.0126    | 0.0204 |
| <b>C</b> | 0.360       | 0.560 | 0.0141    | 0.0220 |
| <b>D</b> | 0.350       | 0.440 | 0.0137    | 0.0173 |
| <b>E</b> | 4.400       | 4.600 | 0.1732    | 0.1811 |
| <b>G</b> | 1.400       | 1.800 | 0.0551    | 0.0708 |
| <b>H</b> | 2.300       | 2.600 | 0.0905    | 0.1023 |
| <b>J</b> | 3.940       | 4.250 | 0.1551    | 0.1673 |
| <b>K</b> | 1.500TYP    |       | 0.0590TYP |        |
| <b>L</b> | 2.900       | 3.100 | 0.1141    | 0.1220 |





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