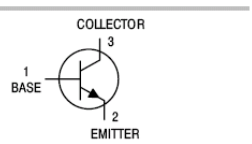
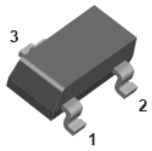
# Silicon Epitaxial Planar Transistor **2SC2712**

## FEATURES

Lead-free

- Low noise：NF=1dB (Typ.),10 dB(Max).
- Complementary to 2SA1162.
- High voltage and high current.
- High $h_{FE}$ linearity.




**SOT-23**

## APPLICATIONS

- Audio frequency general purpose amplifier applications.

## ORDERING INFORMATION

| Type No. | Marking | Package Code |
|---|---|---|
| 2SC2712 | LO▪/LY▪/LG▪/LL▪ | SOT-23 |

## MAXIMUM RATING @ Ta=25℃ unless otherwise specified

| **Symbol** | **Parameter** | **Value** | **Units** |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 60 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 50 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current -Continuous | 150 | mA |
| $P_C$ | Collector Dissipation | 150 | mW |
| $T_j$,$T_{stg}$ | Junction and Storage Temperature | -55~125 | ℃ |

# Silicon Epitaxial Planar Transistor **2SC2712**

## ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

| **Parameter** | **Symbol** | **Test conditions** | **MIN** | **TYP** | **MAX** | **UNIT** |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=100μA,$I_E$=0 | 60 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$=0.1mA,$I_B$=0 | 50 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=100μA,$I_C$=0 | 5 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=60V,$I_E$=0 | | | 0.1 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$=5V,$I_C$=0 | | | 0.1 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$=6V,$I_C$=2mA | 70 | | 700 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$=100mA, $I_B$=10mA | | 0.1 | 0.25 | V |
| Transition frequency | $f_T$ | $V_{CE}$=10V, $I_C$= 1mA | 80 | | | MHz |
| Output capacitance | $C_{ob}$ | $V_{CB}$=10V, $I_E$=0,f=1kHz | | 2.0 | 3.5 | pF |
| Noise Figure | NF | $V_{CE}$=6V,$I_C$=0.1mA,f=1kHz | | 1.0 | 10 | dB |

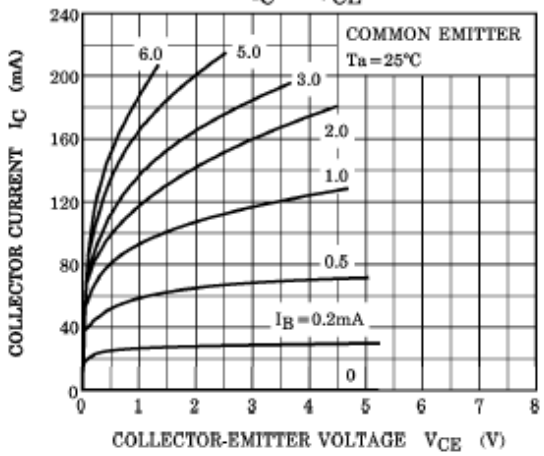
## CLASSIFICATION OF $h_{FE(1)}$

| Rank | O | Y | GR | BL |
|---|---|---|---|---|
| Range | 70-140 | 120-240 | 200-400 | 350-700 |
| Marking | LO • | LY • | LG • | LL • |

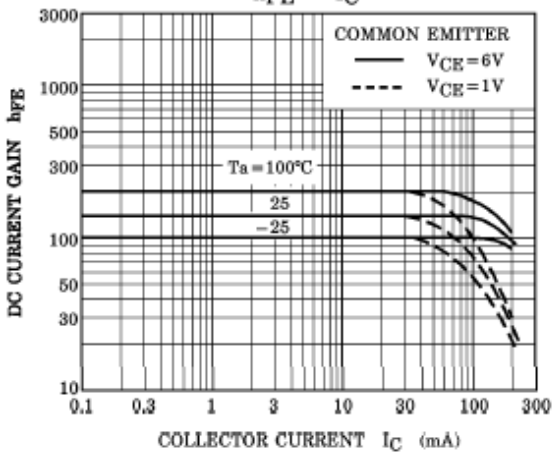
# Silicon Epitaxial Planar Transistor **2SC2712**

## TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

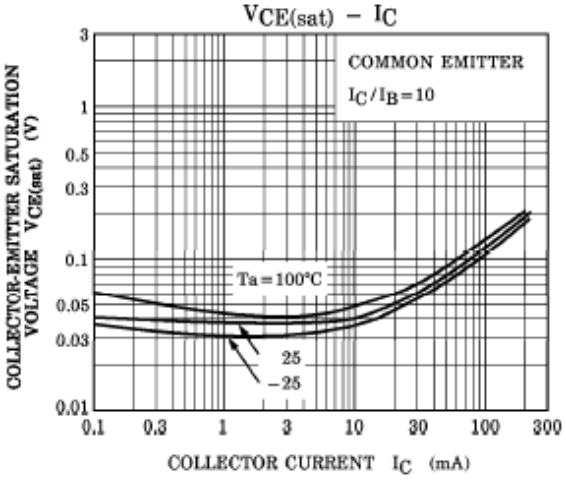
$I_C$ – $V_{CE}$



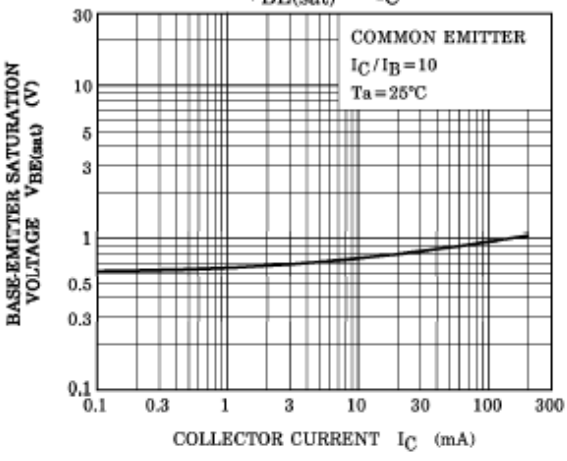

$h_{FE}$ – $I_C$



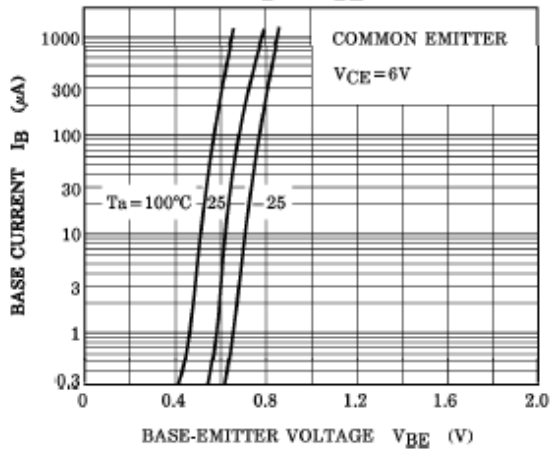

$V_{CE(sat)}$ – $I_C$



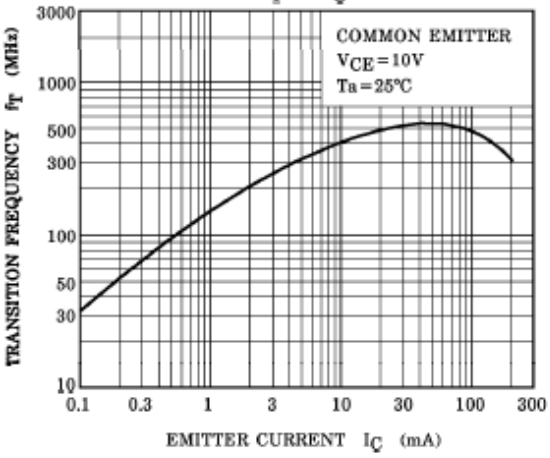

$V_{BE(sat)}$ – $I_C$




$I_B$ – $V_{BE}$



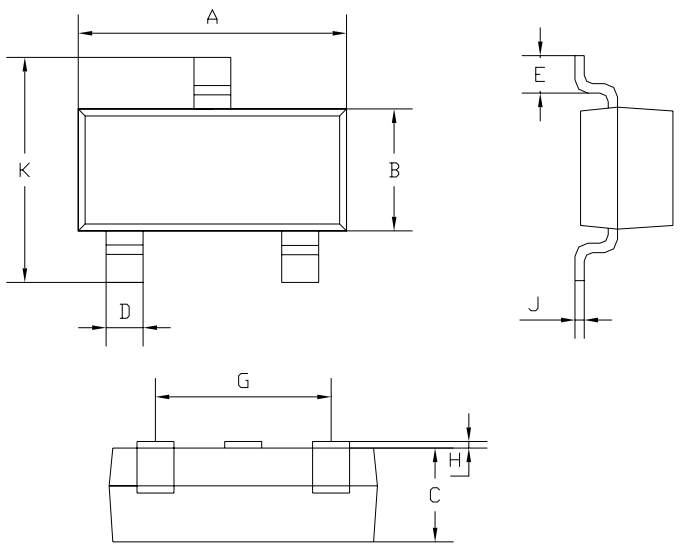

$f_T$ – $I_C$



# Silicon Epitaxial Planar Transistor **2SC2712**

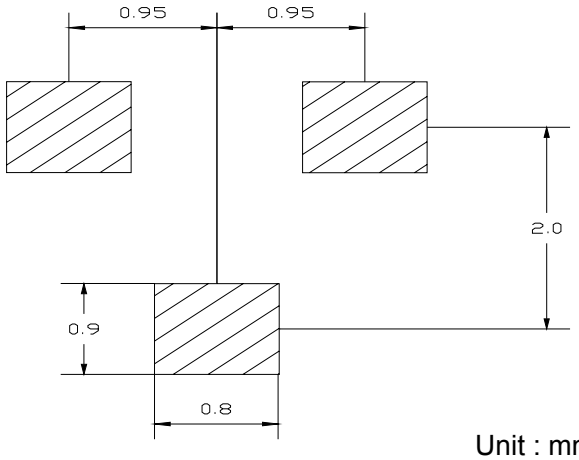
## PACKAGE OUTLINE

Plastic surface mounted package SOT-23




| SOT-23 | | |
|---|---|---|
| Dim | Min | Max |
| A | 2.85 | 2.95 |
| B | 1.25 | 1.35 |
| C | 1.0Typical | |
| D | 0.37 | 0.43 |
| E | 0.35 | 0.48 |
| G | 1.85 | 1.95 |
| H | 0.02 | 0.1 |
| J | 0.1Typical | |
| K | 2.35 | 2.45 |
| All Dimensions in mm | | |

## SOLDERING FOOTPRINT




Unit : mm

## PACKAGE INFORMATION

| Device | Package | Shipping |
|---|---|---|
| 2SC2712 | SOT-23 | 3000/Tape&Reel |