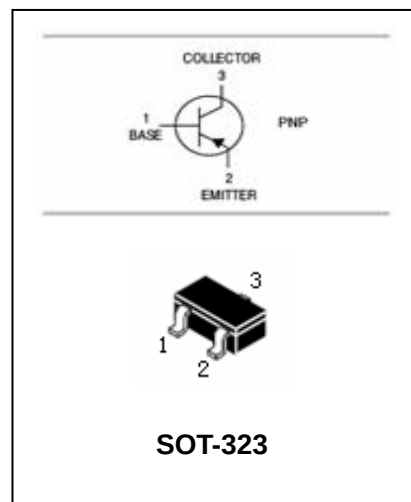


## PNP Silicon Epitaxial Planar Transistor

## 2SA1611

### FEATURES

- High voltage  $V_{CE0}=-50V$ .
- Excellent  $H_{FE}$  Linearity.
- High DC current gain :  $h_{FE}=200$  typ.
- Complementary to 2SC4177.



### APPLICATIONS

- Audio frequency general purpose amplifier applications.

### ORDERING INFORMATION

| Type No. | Marking     | Package Code |
|----------|-------------|--------------|
| 2SA1611  | M4/M5/M6/M7 | SOT-323      |

### MAXIMUM RATING @ $T_a=25^{\circ}C$ 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    | -100        | mA          |
| $P_C$          | Collector Dissipation            | 150         | mW          |
| $T_j, T_{stg}$ | Junction and Storage Temperature | -55 to +150 | $^{\circ}C$ |



## PNP Silicon Epitaxial Planar Transistor

## 2SA1611

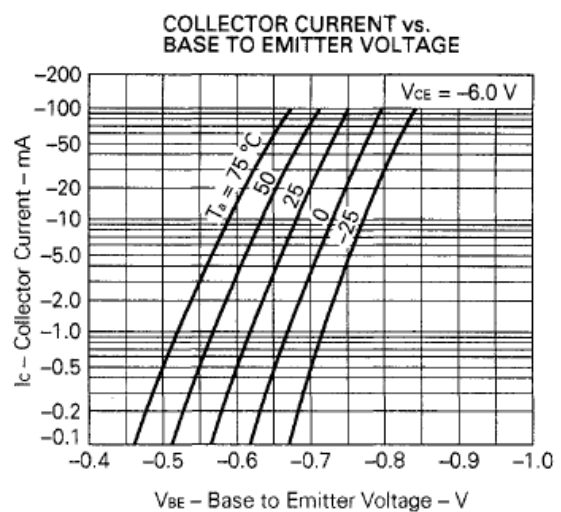
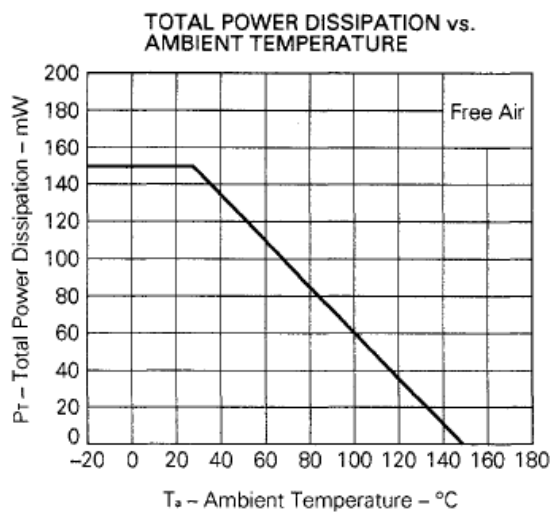
### ELECTRICAL CHARACTERISTICS @ $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter                            | Symbol        | Test conditions                            | MIN | TYP   | MAX  | UNIT          |
|--------------------------------------|---------------|--------------------------------------------|-----|-------|------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C=-100\mu\text{A}, I_E=0$               | -60 |       |      | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C=-1\text{mA}, I_B=0$                   | -50 |       |      | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E=-100\mu\text{A}, I_C=0$               | -5  |       |      | V             |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB}=-60\text{V}, I_E=0$                |     |       | -0.1 | $\mu\text{A}$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB}=-5\text{V}, I_C=0$                 |     |       | -0.1 | $\mu\text{A}$ |
| DC current gain                      | $h_{FE}$      | $V_{CE}=-6\text{V}, I_C=-1\text{mA}$       | 90  | 200   | 600  |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C=-100\text{mA}, I_B=-10\text{mA}$      |     | -0.18 | -0.3 | V             |
| Transition frequency                 | $f_T$         | $V_{CE}=-6\text{V}, I_C=-10\text{mA}$      | 180 |       |      | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB}=-10\text{V}, I_E=0, f=1\text{MHz}$ |     | 4.5   |      | pF            |

### CLASSIFICATION OF $h_{FE}$

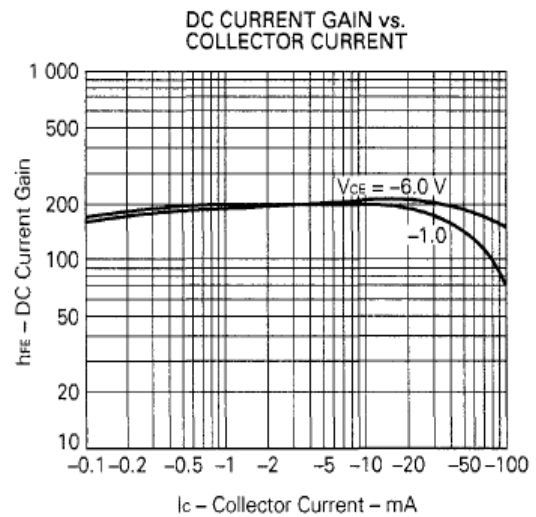
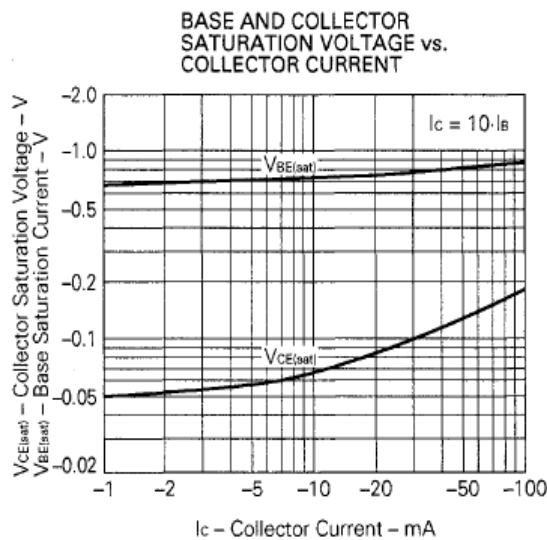
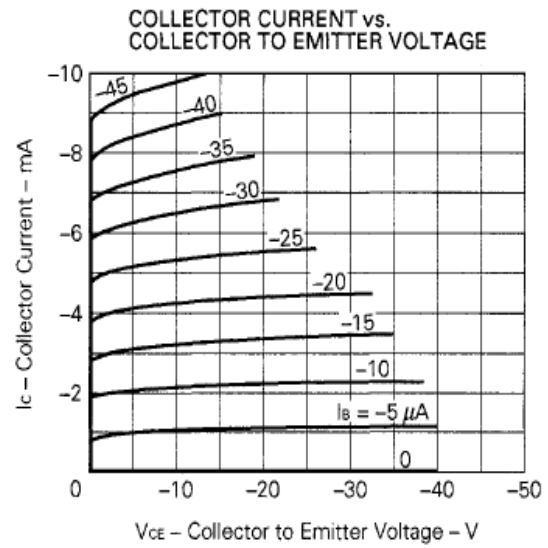
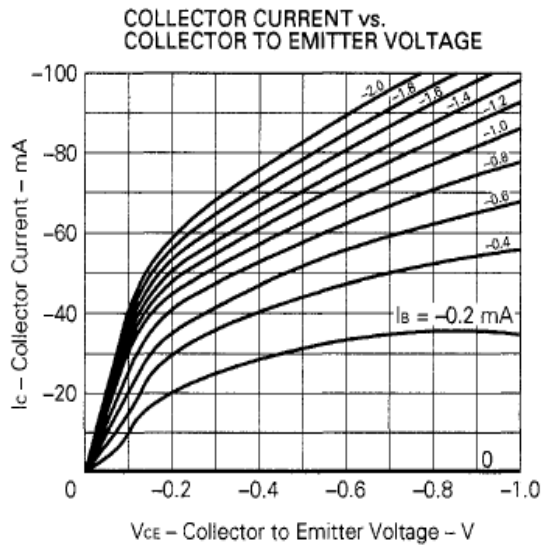
|         |        |         |         |         |
|---------|--------|---------|---------|---------|
| Range   | 90-180 | 135-270 | 200-400 | 300-600 |
| marking | M4     | M5      | M6      | M7      |

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



# PNP Silicon Epitaxial Planar Transistor

## 2SA1611



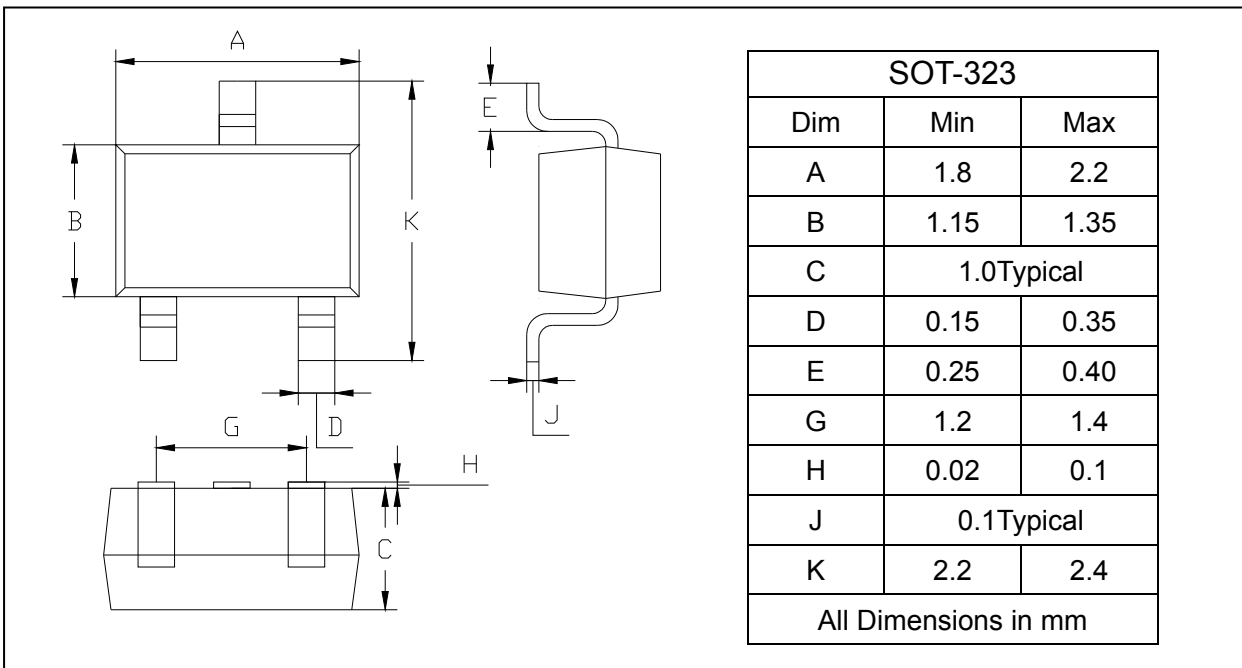
## PNP Silicon Epitaxial Planar Transistor

**2SA1611**

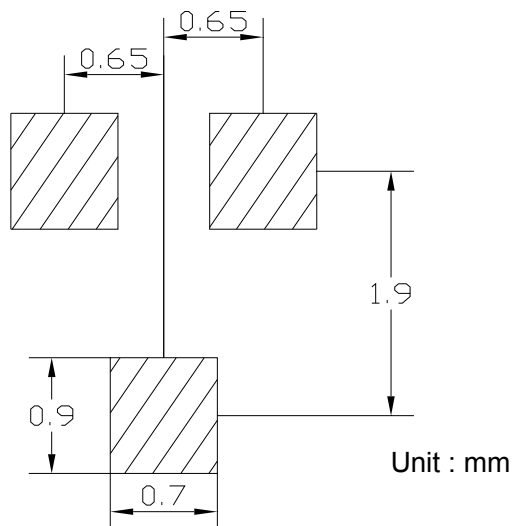
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-323



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Device  | Package | Shipping       |
|---------|---------|----------------|
| 2SA1611 | SOT-323 | 3000/Tape&Reel |