

## Silicon Epitaxial Planar Transistor

### FEATURES

- Low noise: NF=1dB(Typ),10dB(Max).
- Complementary to 2SC2712.
- Small package.

### APPLICATIONS

• General purpose application.

### ORDERING INFORMATION

| Type No. | Marking  | Package Code |  |
|----------|----------|--------------|--|
| 2SA1162  | SO/SY/SG | SOT-23       |  |

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

| Symbol                           | Parameter                        | Value   | Units |
|----------------------------------|----------------------------------|---------|-------|
| V <sub>CBO</sub>                 | Collector-Base Voltage           | -50     | V     |
| V <sub>CEO</sub>                 | Collector-Emitter Voltage        | -50     | V     |
| V <sub>EBO</sub>                 | Emitter-Base Voltage             | -5      | V     |
| Ic                               | Collector Current -Continuous    | -150    | mA    |
| P <sub>c</sub>                   | Collector Dissipation            | 150     | mW    |
| T <sub>j,</sub> T <sub>stg</sub> | Junction and Storage Temperature | -55~125 | °C    |



## ELECTRICAL CHARACTERISTICS @ Ta=25 $^{\circ}$ unless otherwise specified

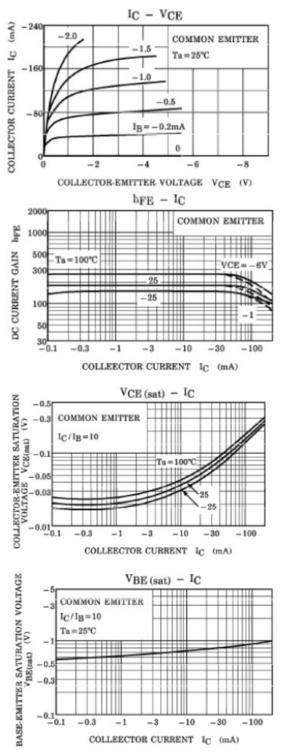
| Parameter                            | Symbol               | Test conditions  | MIN | TYP | МАХ  | UNIT |
|--------------------------------------|----------------------|--|-----|-----|------|------|
| Collector-base breakdown voltage     | V <sub>(BR)CBO</sub> | Ι <sub>C</sub> =-100μΑ,Ι <sub>Ε</sub> =0                                   | -50 |     |      | V    |
| Collector-emitter breakdown voltage  | V <sub>(BR)CEO</sub> | I <sub>C</sub> =-1mA,I <sub>B</sub> =0                                     | -50 |     |      | V    |
| Emitter-base breakdown voltage       | V <sub>(BR)EBO</sub> | Ι <sub>Ε</sub> =-100μΑ,Ι <sub>C</sub> =0                                   | -5  |     |      | V    |
| Collector cut-off current            | I <sub>CBO</sub>     | V <sub>CB</sub> =-50V,I <sub>E</sub> =0                                    |     |     | -0.1 | μA   |
| Emitter cut-off current              | I <sub>EBO</sub>     | V <sub>EB</sub> =-5V,I <sub>C</sub> =0                                     |     |     | -0.1 | μA   |
| DC current gain                      | h <sub>FE</sub>      | V <sub>CE</sub> =-6V,I <sub>C</sub> =-2mA                                  | 70  |     | 400  |      |
| Collector-emitter saturation voltage | V <sub>CE(sat)</sub> | I <sub>C</sub> =-100mA, I <sub>B</sub> =-10mA                              |     |     | -0.3 | V    |
| Transition frequency                 | f⊤                   | V <sub>CE</sub> =-10V, I <sub>C</sub> =-1mA                                | 80  |     |      | MHz  |
| Collector output capacitance         | Cob                  | V <sub>CB</sub> =-10∨,I <sub>E</sub> =0,f=1MHz                             |     |     | 7    | pF   |
| Noise figure                         | NF                   | V <sub>CE</sub> =-6V,I <sub>C</sub> =0.1mA,<br>f=1MHz,R <sub>g</sub> =10kΩ |     |     | 10   | dB   |

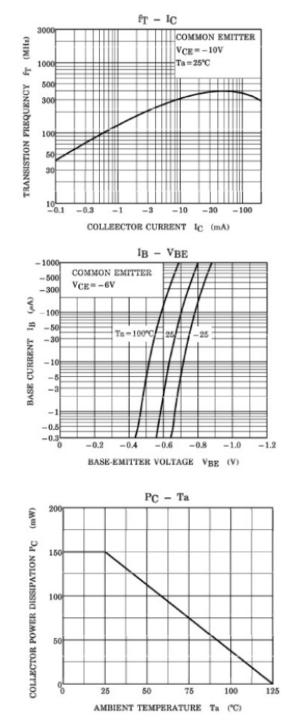
## CLASSIFICATION OF hFE(1)

| Rank  | 0      | Y       | G       |
|-------|--------|---------|---------|
| Range | 70-140 | 120-240 | 200-400 |



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







### PACKAGE OUTLINE

#### Plastic surface mounted package

#### SOT-23

Max

2.95

1.35

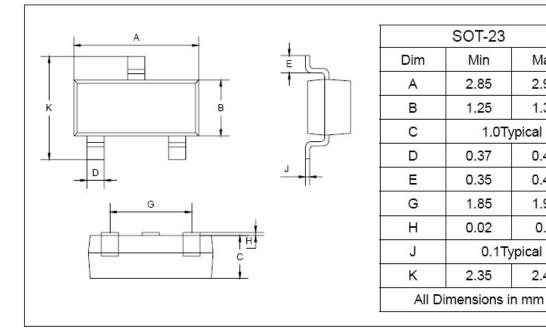
0.43

0.48

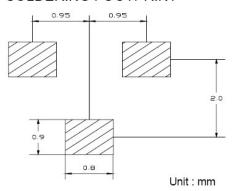
1.95

0.1

2.45



| 201 | DEDING | FOOTPRINT |
|-----|--------|-----------|
| SUL |        | FUUTERINI |



### PACKAGE INFORMATION

| Device  | Package | Shipping       |
|---------|---------|----------------|
| 2SA1162 | SOT-23  | 3000/Tape&Reel |

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