

## Silicon Epitaxial Planar Transistor

## 2SA733

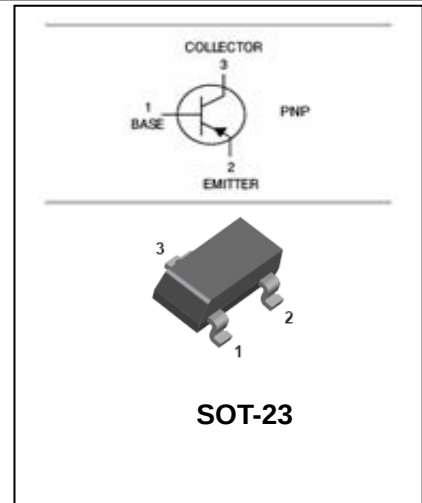
### FEATURES

- Excellent  $h_{FE}$  Linearity.
- Power dissipation:  $P_D=250mW$ .
- High  $h_{FE}$ .



### APPLICATIONS

- Designed for use in driver stage of amplifier.



### ORDERING INFORMATION

| Type No. | Marking | Package Code |
|----------|---------|--------------|
| 2SA733□  | CS      | SOT-23       |

□: none is for Lead Free package;

“G” is for Halogen Free package

### 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            | 250         | mW          |
| $T_j, T_{stg}$ | Junction and Storage Temperature | -55 to +150 | $^{\circ}C$ |

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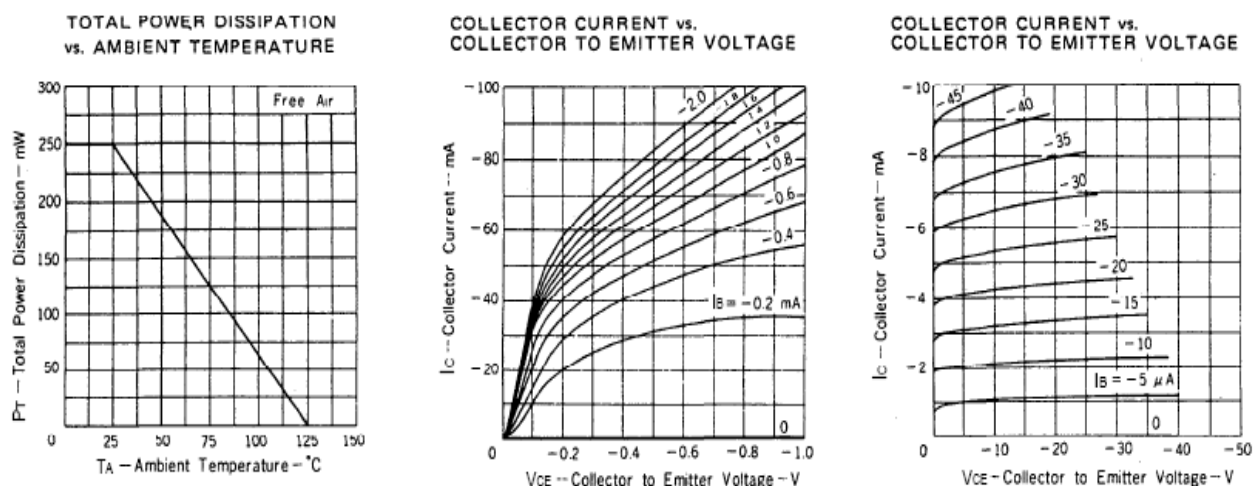
### ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter                            | Symbol        | Test conditions                    | MIN   | TYP   | MAX   | UNIT    |
|--------------------------------------|---------------|------------------------------------|-------|-------|-------|---------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -50\mu A, I_E = 0$          | -60   |       |       | V       |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$              | -50   |       |       | V       |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -50\mu A, I_C = 0$          | -5    |       |       | V       |
| Collector cut-off current            | $I_{CBO}$     | $V_{CB} = -60V, I_E = 0$           |       |       | -0.1  | $\mu A$ |
| Emitter cut-off current              | $I_{EBO}$     | $V_{EB} = -5V, I_C = 0$            |       |       | -0.1  | $\mu A$ |
| DC current gain                      | $h_{FE}$      | $V_{CE} = -6V, I_C = -1mA$         | 90    | 200   | 600   |         |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100mA, I_B = -10mA$        |       | -0.18 | -0.3  | V       |
| Base-emitter on voltage              | $V_{BE}$      | $V_{CE} = -6V, I_C = -1.0mA$       | -0.58 | -0.62 | -0.68 | V       |
| Transition frequency                 | $f_T$         | $V_{CE} = -6V, I_C = -10mA$        |       | 180   |       | MHz     |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10V, I_E = 0, f = 1MHz$ |       | 4.5   |       | pF      |

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

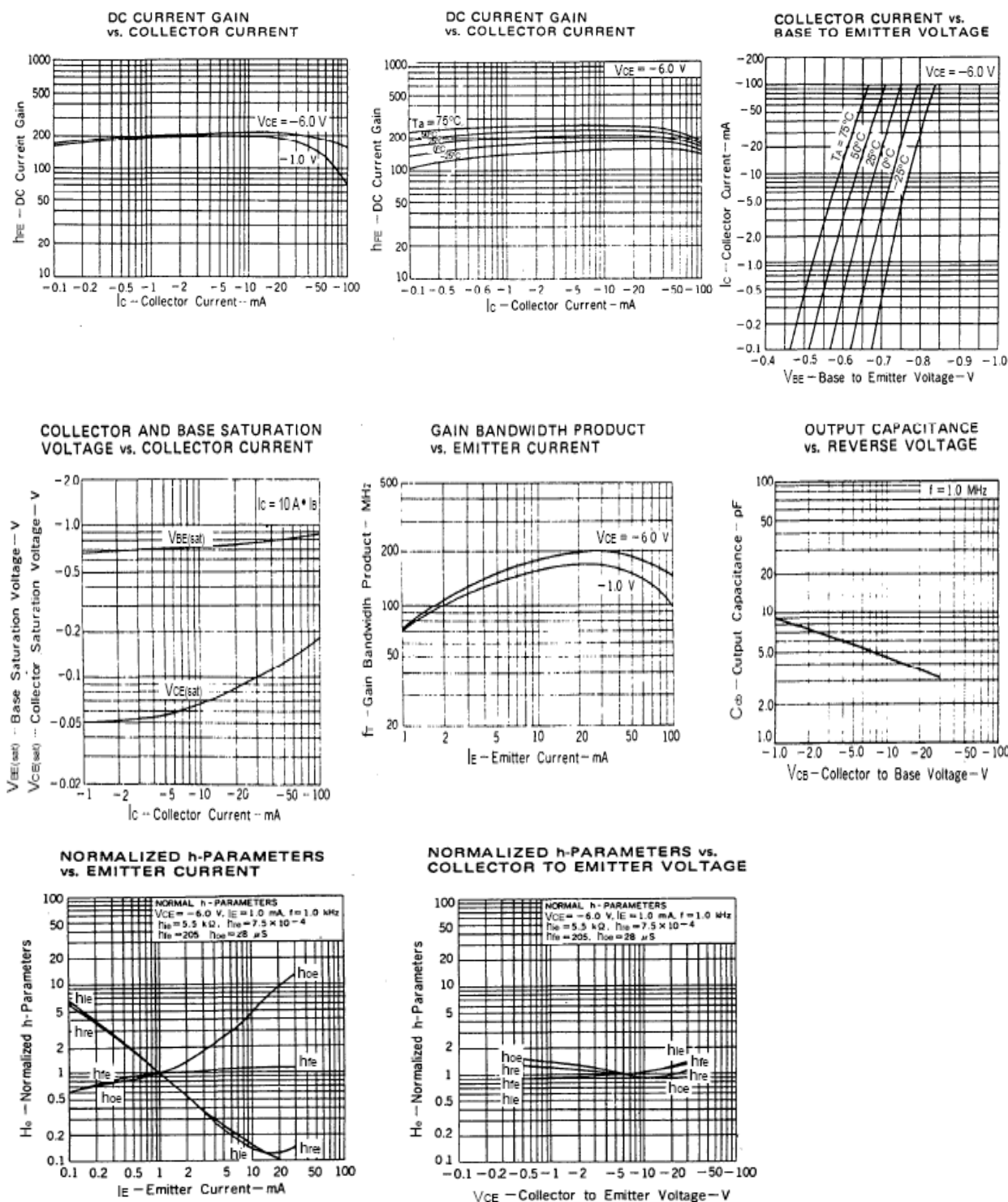
| Rank  | R      | Q       | P       | E       |
|-------|--------|---------|---------|---------|
| Range | 90-180 | 135-270 | 200-400 | 300-600 |

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



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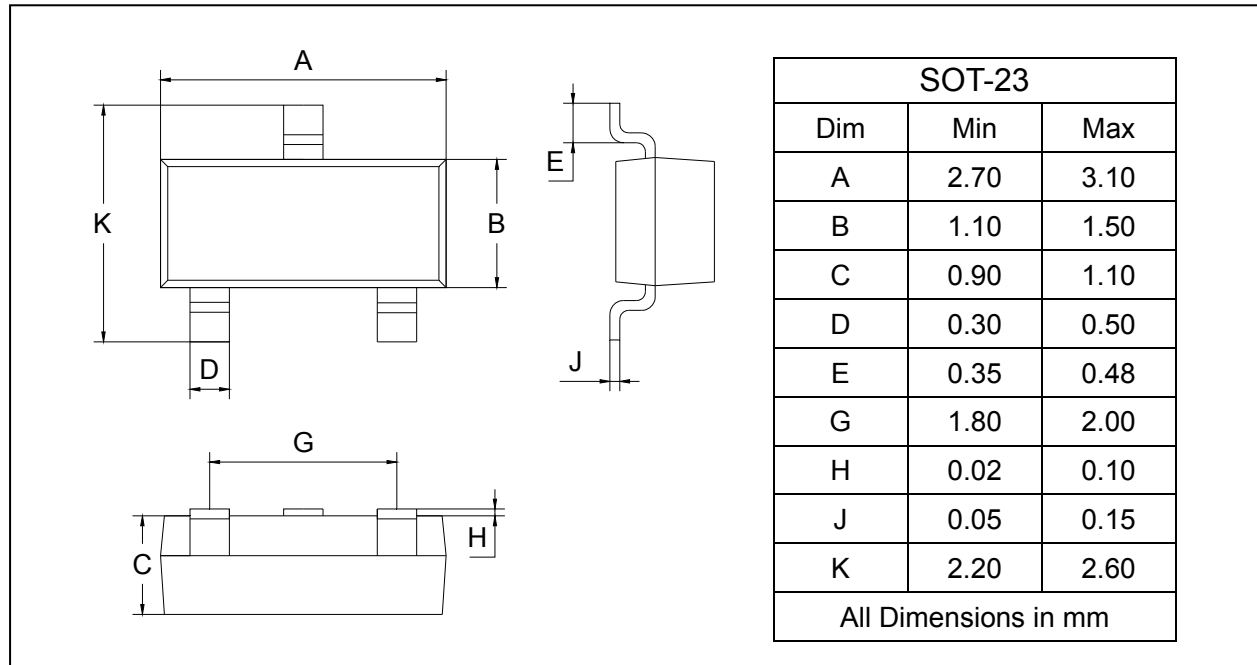
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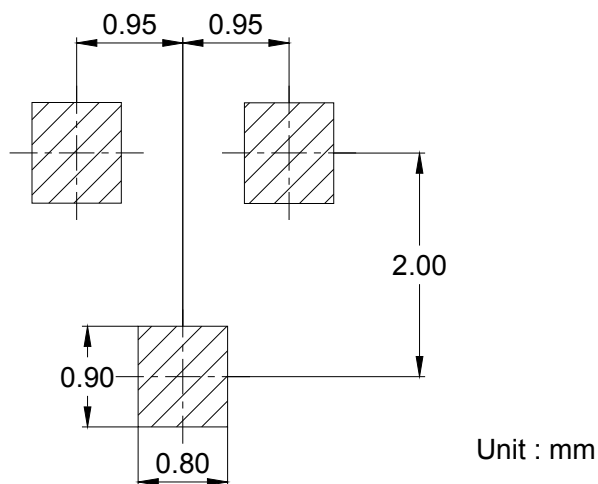
### PACKAGE OUTLINE

Plastic surface mounted package

SOT-23



### SOLDERING FOOTPRINT



### PACKAGE INFORMATION

| Device | Package | Shipping       |
|--------|---------|----------------|
| 2SA733 | SOT-23  | 3000/Tape&Reel |