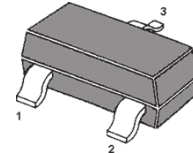


**A733 TRANSISTOR (PNP)****FEATURE**Excellent  $h_{FE}$  Linearity

Low noise

Complementary to C945

**MARKING: CS****SOT-23**

1. BASE
2. EMITTER
3. COLLECTOR

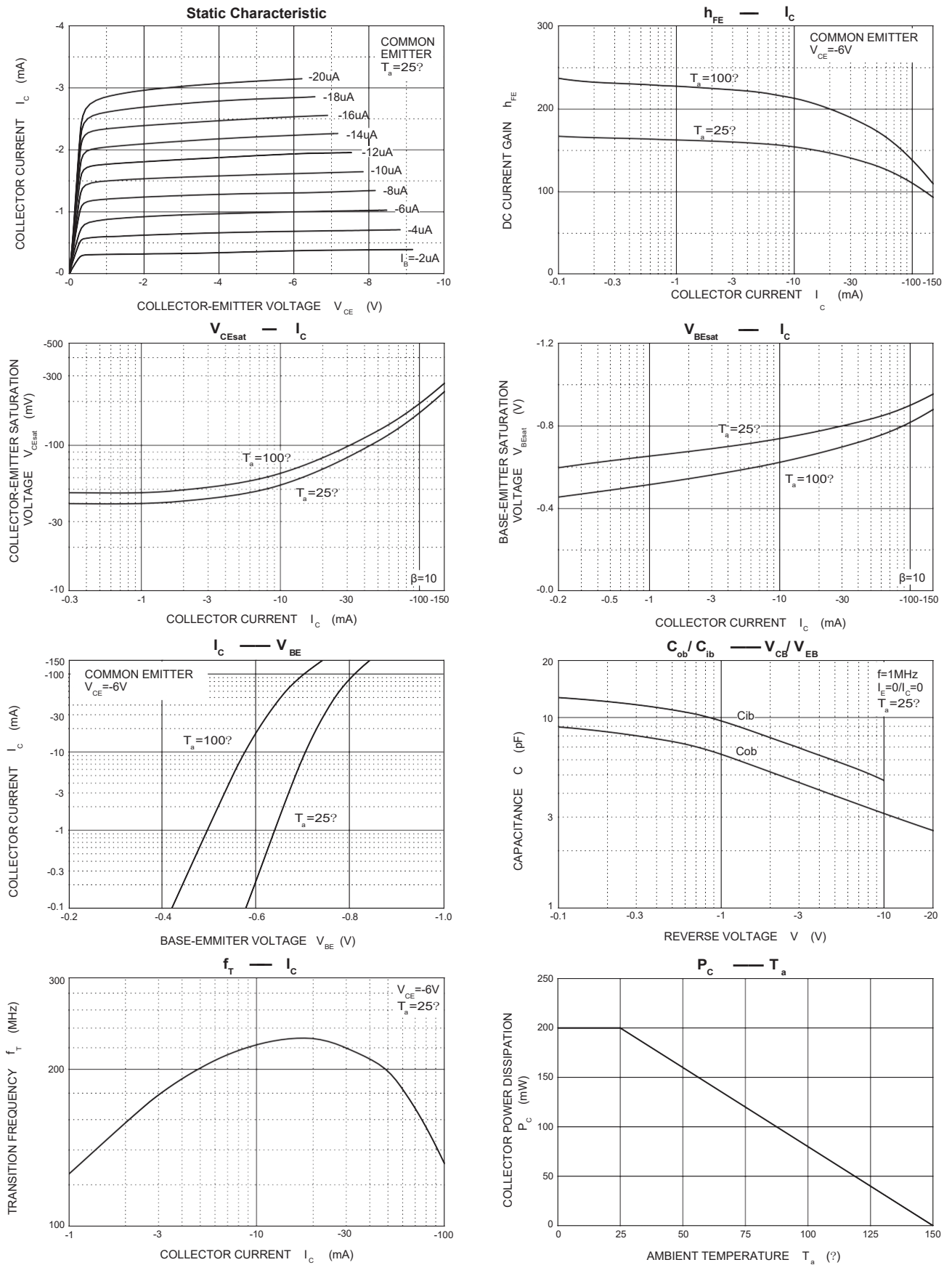
**MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$  unless otherwise noted)**

| Symbol          | Parameter                                   | Value      | Unit                      |
|-----------------|---------------------------------------------|------------|---------------------------|
| $V_{CBO}$       | Collector-Base Voltage                      | -60        | V                         |
| $V_{CEO}$       | Collector-Emitter Voltage                   | -50        | V                         |
| $V_{EBO}$       | Emitter-Base Voltage                        | -5         | V                         |
| $I_C$           | Collector Current                           | -150       | mA                        |
| $P_C$           | Collector Power Dissipation                 | 200        | mW                        |
| $R_{\theta JA}$ | Thermal Resistance From Junction To Ambient | 625        | $^\circ\text{C}/\text{W}$ |
| $T_j$           | Junction Temperature                        | 150        | $^\circ\text{C}$          |
| $T_{stg}$       | Storage Temperature                         | -55 ~ +150 | $^\circ\text{C}$          |

**ELECTRICAL CHARACTERISTICS ( $T_a=25^\circ\text{C}$  unless otherwise specified)**

| Parameter                            | Symbol        | Test conditions                                                                      | Min   | Typ   | Max   | Unit          |
|--------------------------------------|---------------|--------------------------------------------------------------------------------------|-------|-------|-------|---------------|
| Collector-base breakdown voltage     | $V_{(BR)CBO}$ | $I_C = -5\mu\text{A}, I_E = 0$                                                       | -60   |       |       | V             |
| Collector-emitter breakdown voltage  | $V_{(BR)CEO}$ | $I_C = -1\text{mA}, I_B = 0$                                                         | -50   |       |       | V             |
| Emitter-base breakdown voltage       | $V_{(BR)EBO}$ | $I_E = -50\mu\text{A}, I_C = 0$                                                      | -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                      | $h_{FE}$      | $V_{CE} = -6\text{V}, I_C = -1\text{mA}$                                             | 200   |       | 400   |               |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -100\text{mA}, I_B = -10\text{mA}$                                            |       | -0.18 | -0.3  | V             |
| Base-emitter voltage                 | $V_{BE(on)}$  | $V_{CE} = -6\text{V}, I_C = -1.0\text{mA}$                                           | -0.58 | -0.62 | -0.68 | V             |
| Transition frequency                 | $f_T$         | $V_{CE} = -6\text{V}, I_C = -10\text{mA}$                                            | 50    |       |       | MHz           |
| Collector output capacitance         | $C_{ob}$      | $V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$                                     |       | 4.5   | 7     | pF            |
| Noise figure                         | NF            | $V_{CE} = -6\text{V}, I_C = -0.3\text{mA}, R_g = 10\text{k}\Omega, f = 100\text{Hz}$ |       | 6     | 20    | dB            |

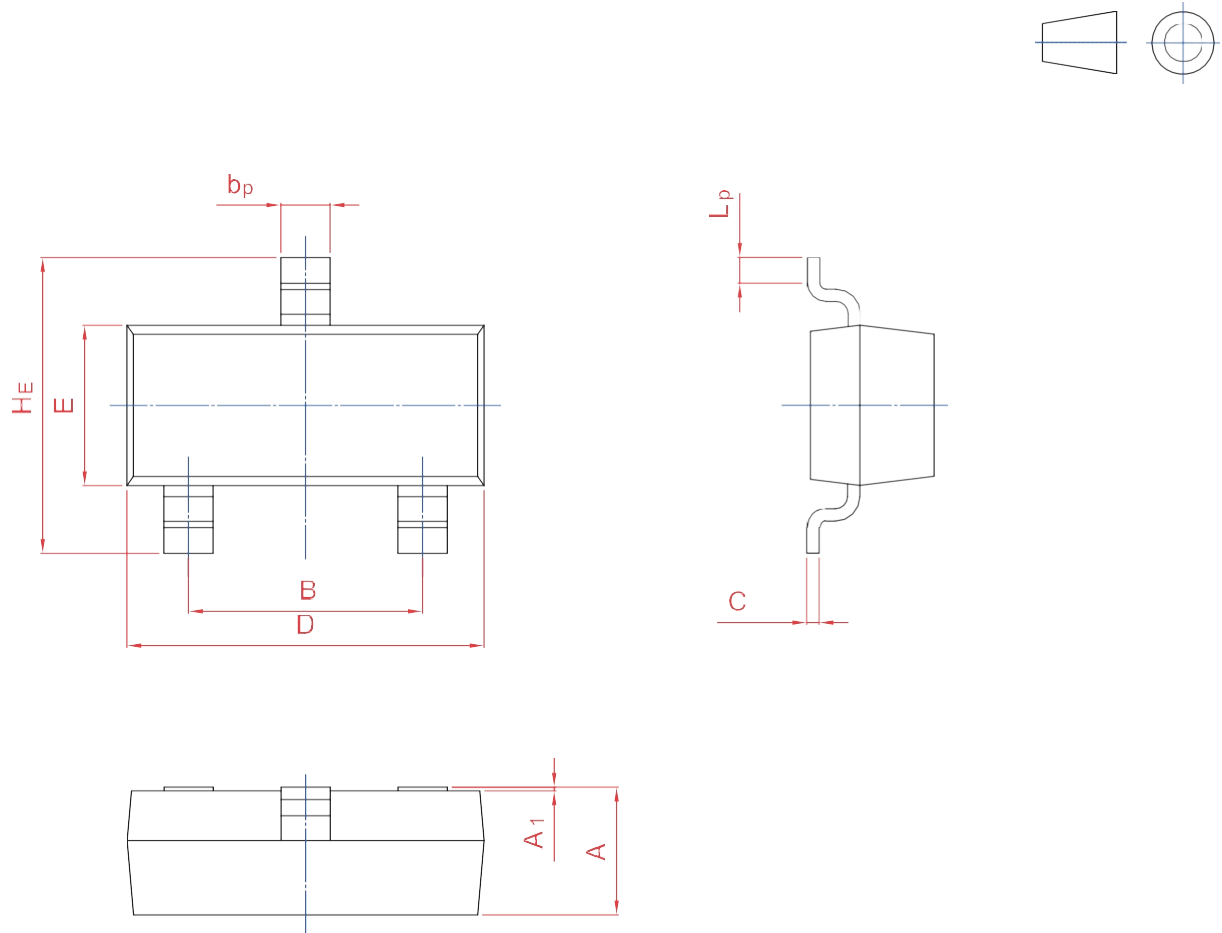
## Typical Characteristics



## PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT-23



| UNIT | A            | B            | $b_p$        | C            | D            | E            | $H_E$        | $A_1$          | $L_p$        |
|------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|--------------|
| mm   | 1.40<br>0.95 | 2.04<br>1.78 | 0.50<br>0.35 | 0.19<br>0.08 | 3.10<br>2.70 | 1.65<br>1.20 | 3.00<br>2.20 | 0.100<br>0.013 | 0.50<br>0.20 |