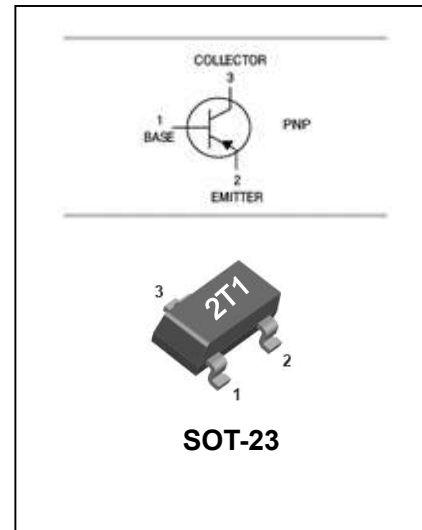


FEATURES

- High Collector Current.($I_C = -500\text{mA}$)
- Complementary To S9013.
- Excellent H_{FE} Linearity.

APPLICATIONS

- High Collector Current.



MAXIMUM RATING @ $T_a = 25^\circ\text{C}$ unless otherwise specified

| Symbol | Parameter | Value | Units |
|----------------|----------------------------------|-------------|------------------|
| V_{CBO} | Collector-Base Voltage | -40 | V |
| V_{CEO} | Collector-Emitter Voltage | -25 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current -Continuous | -500 | mA |
| P_C | Collector Dissipation | 300 | mW |
| T_J, T_{STG} | Junction and Storage Temperature | -55 to +150 | $^\circ\text{C}$ |

ELECTRICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|--------------------------------------|---------------|--|-----|-----|------|---------|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C = -100\mu A, I_E = 0$ | -40 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C = -1mA, I_B = 0$ | -25 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E = -100\mu A, I_C = 0$ | -5 | | | V |
| Collector cut-off current | I_{CBO} | $V_{CB} = -40V, I_E = 0$ | | | -0.1 | μA |
| Collector cut-off current | I_{CEO} | $V_{CE} = -20V, I_B = 0$ | | | -0.1 | μA |
| Emitter cut-off current | I_{EBO} | $V_{EB} = -5V, I_C = 0$ | | | -0.1 | μA |
| DC current gain | h_{FE} | $V_{CE} = -1V, I_C = -50mA$ | 120 | | 400 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C = -500mA, I_B = -50mA$ | | | -0.6 | V |
| Base-emitter saturation voltage | $V_{BE(sat)}$ | $I_C = -500mA, I_B = -50mA$ | | | -1.2 | V |
| Transition frequency | f_T | $V_{CE} = -6V, I_C = -20mA$ $f = 30MHz$ | 150 | | | MHz |
| Collector output capacitance | C_{ob} | $V_{CB} = -10V, I_E = 0, f = 1MHz$ | | | 5 | pF |

CLASSIFICATION OF $h_{FE(1)}$

| Rank | L | H | J |
|---------|---------|---------|---------|
| Range | 120-200 | 200-350 | 300-400 |
| MARKING | 2T1 | | |

TYPICAL CHARACTERISTICS @ Ta=25°C unless otherwise specified

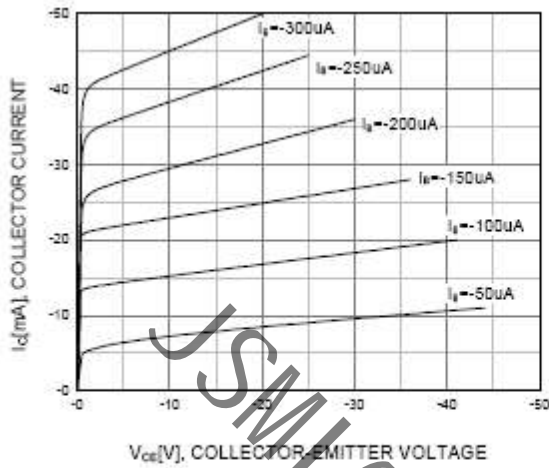


Figure 1. Static Characteristic

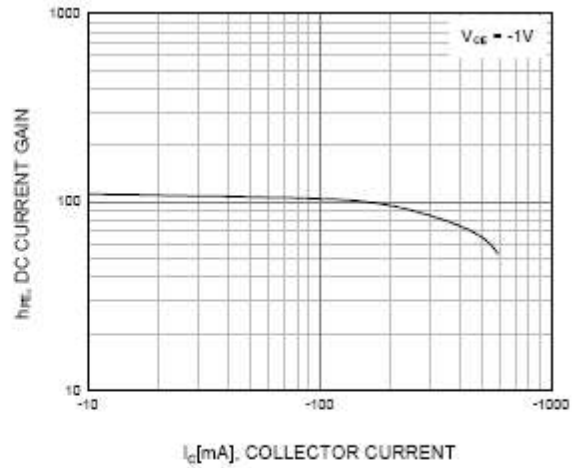


Figure 2. DC current Gain

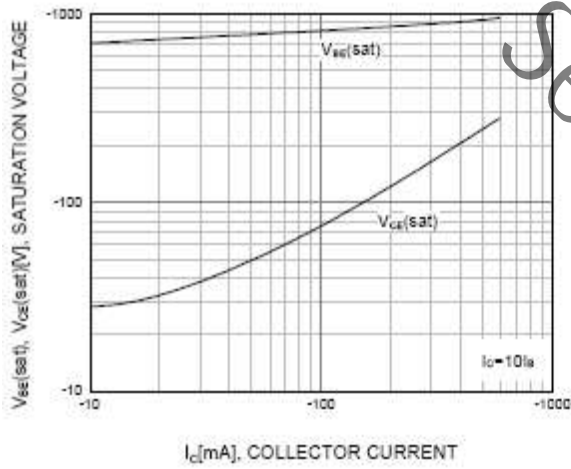


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

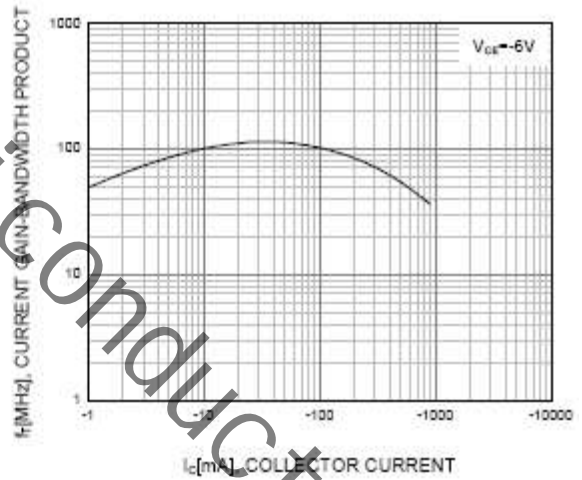
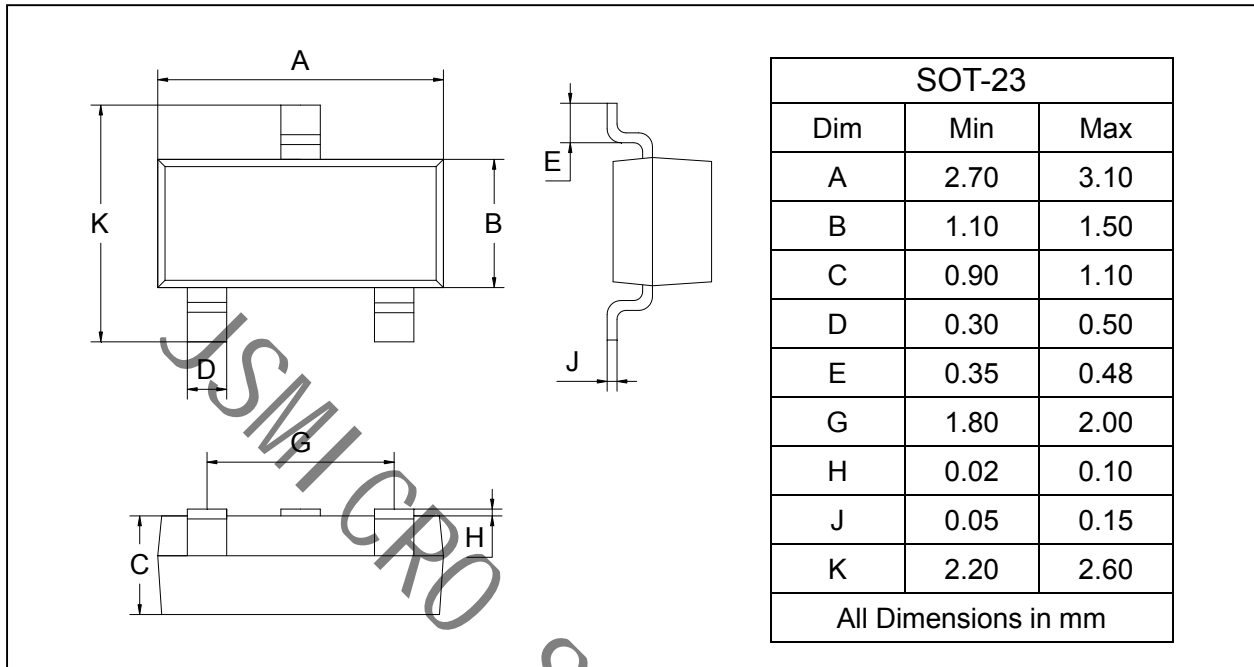
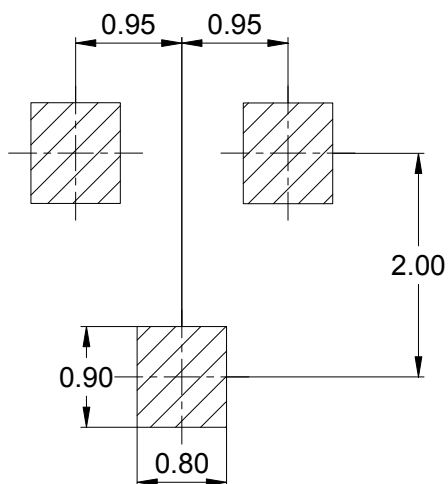


Figure 4. Current Gain Bandwidth Product

PACKAGE OUTLINE

Plastic surface mounted package

SOT-23


SOLDERING FOOTPRINT

PACKAGE INFORMATION

| Device | Package | Shipping |
|--------|---------|----------------|
| S9012 | SOT-23 | 3000/Tape&Reel |