



Features

- High Collector Current ($I_C = 500\text{mA}$)
- Complementary To TPS8550T
- Excellent H_{FE} Linearity

Applications

- High Collector Current

Ordering Information

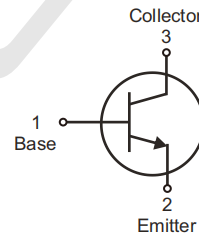
- Shipping Qty: 3000/7inch Tape & Reel

Circuit Diagram

SOT523



Top View



Absolute Maximum Ratings ($T_{amb} = 25^\circ\text{C}$ 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 | 265 | 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 | $V_{(BR)EBO}$ | $I_E=-00\mu A, I_C=0$ | 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} | $V_{EB}=3V, I_C=0$ | | | 0.1 | μA |
| DC current gain | h_{FE} | $V_{CE}=1V, I_C=50mA$ | 120 | 350 | | |
| | | $V_{CE}=1V, I_C=500mA$ | 50 | | | |
| 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 |

Typical Performance Characteristics (TA=25°C unless otherwise Specified)

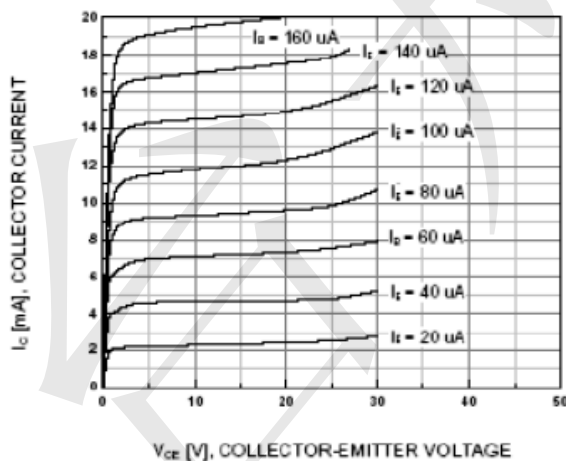


Figure 1. Static Characteristic

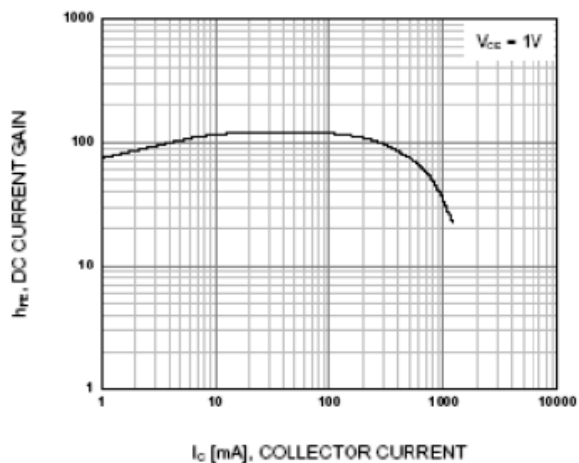
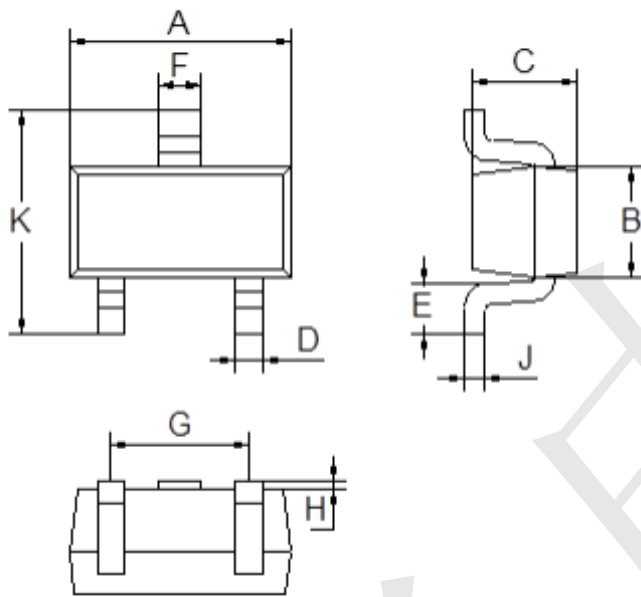


Figure 2. DC current Gain



Outline Drawing - SOT523 (unit: mm)



| SOT-523 | | |
|---------|------|------|
| Dim | Min | Max |
| A | 1.50 | 1.70 |
| B | 0.75 | 0.85 |
| C | 0.60 | 0.80 |
| D | 0.15 | 0.30 |
| E | 0.30 | 0.40 |
| F | 0.25 | 0.40 |
| G | 0.90 | 1.10 |
| H | 0.02 | 0.10 |
| J | 0.08 | 0.18 |
| K | 1.45 | 1.75 |

Mounting Pad Layout (unit: mm)

