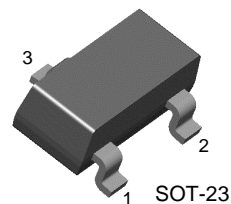


KST5550

KST5550

High Voltage Transistor



1. Base 2. Emitter 3. Collector

NPN Epitaxial Silicon Transistor

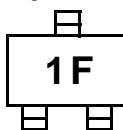
Absolute Maximum Ratings $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Value | Units |
|-----------|-----------------------------|-------|------------------|
| V_{CBO} | Collector-Base Voltage | 160 | V |
| V_{CEO} | Collector-Emitter Voltage | 140 | V |
| V_{EBO} | Emitter-Base Voltage | 6 | V |
| I_C | Collector Current | 600 | mA |
| P_C | Collector Power Dissipation | 350 | mW |
| T_{STG} | Storage Temperature | 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|----------------------|--------------------------------------|--|----------------|--------------|-------|
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C=10\mu\text{A}, I_E=0$ | 160 | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C=1\text{mA}, I_B=0$ | 140 | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E=10\mu\text{A}, I_C=0$ | 6 | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB}=100\text{V}, I_E=0$ | | 100 | nA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB}=4\text{V}, I_C=0$ | | 50 | nA |
| h_{FE} | DC Current Gain | $V_{CE}=5\text{V}, I_C=1.0\text{mA}$ $V_{CE}=5\text{V}, I_C=10\text{mA}$ $V_{CE}=5\text{V}, I_C=50\text{mA}$ | 60 60 20 | 250 | |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=10\text{mA}, I_B=1\text{mA}$ $I_C=50\text{mA}, I_B=5\text{mA}$ | | 0.15 0.25 | V |
| $V_{BE}(\text{sat})$ | Base-Emitter Saturation Voltage | $I_C=10\text{mA}, I_B=1\text{mA}$ $I_C=50\text{mA}, I_B=5\text{mA}$ | | 1.0 1.2 | V |
| f_T | Current Gain Bandwidth Product | $I_C=10\text{mA}, V_{CE}=10\text{V}$ $f=100\text{MHz}$ | 100 | 300 | MHz |
| C_{ob} | Output Capacitance | $V_{CB}=10\text{V}, I_E=0, f=1.0\text{MHz}$ | | 6.0 | pF |

Marking



Typical Characteristics

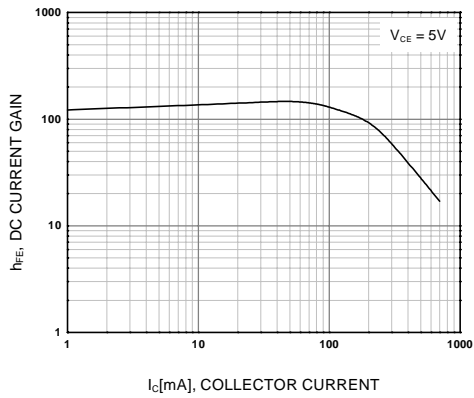


Figure 1. DC current Gain

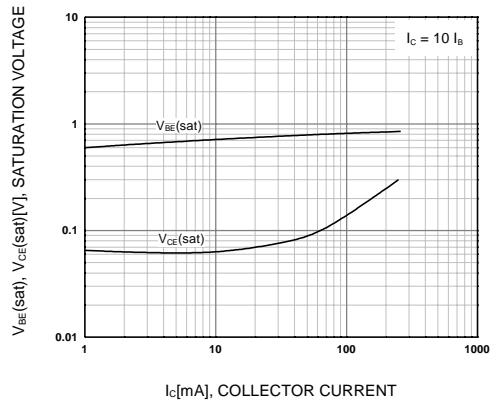


Figure 2. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

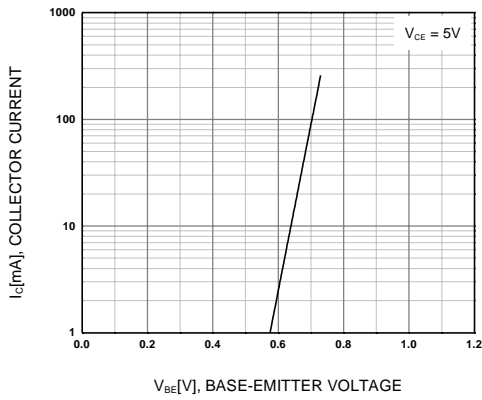


Figure 3. Base-Emitter On Voltage

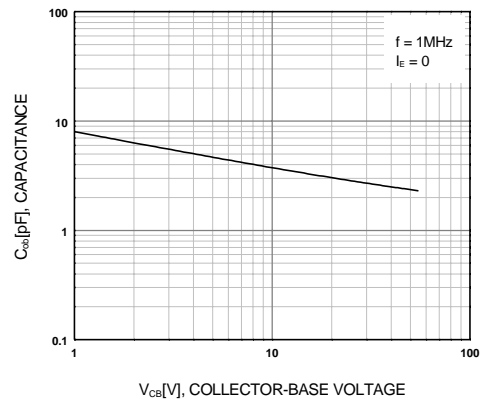


Figure 4. Output Capacitance

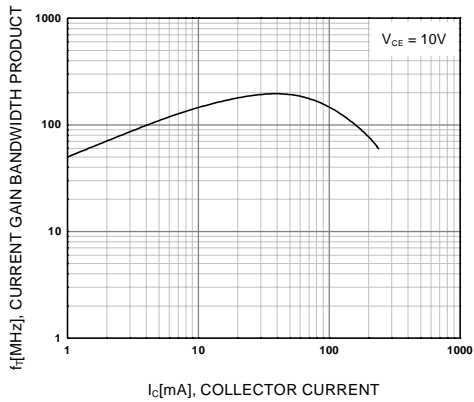


Figure 5. Current Gain Bandwidth Product

Package Dimensions

SOT-23



Dimensions in Millimeters

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