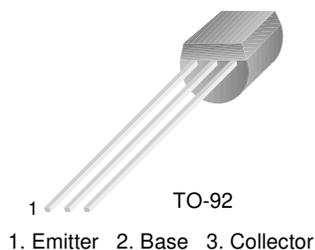


SS9015

Low Frequency, Low Noise Amplifier

- Complement to SS9014



PNP Epitaxial Silicon Transistor

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

| Symbol | Parameter | Ratings | Units |
|-----------|-----------------------------|-----------|------------------|
| V_{CBO} | Collector-Base Voltage | -50 | V |
| V_{CEO} | Collector-Emitter Voltage | -45 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector Current | -100 | mA |
| P_C | Collector Power Dissipation | 450 | mW |
| 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 noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|----------------------|-------------------------------------|--|------|------|-------|-------|
| BV_{CBO} | Collector-Base Breakdown Voltage | $I_C = -100\mu\text{A}, I_E = 0$ | -50 | | | V |
| BV_{CEO} | Collector-Emitter Breakdown Voltage | $I_C = -1\text{mA}, I_B = 0$ | -45 | | | V |
| BV_{EBO} | Emitter-Base Breakdown Voltage | $I_E = -100\mu\text{A}, I_C = 0$ | -5 | | | V |
| I_{CBO} | Collector Cut-off Current | $V_{CB} = -50\text{V}, I_E = 0$ | | | -50 | nA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB} = -5\text{V}, I_C = 0$ | | | -50 | nA |
| h_{FE} | DC Current Gain | $V_{CE} = -5\text{V}, I_C = -1\text{mA}$ | 60 | | 1000 | |
| $V_{CE}(\text{sat})$ | Collector-Base Saturation Voltage | $I_C = -100\text{mA}, I_B = -5\text{mA}$ | | | -0.7 | |
| $V_{BE}(\text{sat})$ | Base-Emitter Saturation Voltage | $I_C = -100\text{mA}, I_B = -5\text{mA}$ | | | -1.0 | V |
| $V_{BE}(\text{on})$ | Base-Emitter On Voltage | $V_{CE} = -5\text{V}, I_C = -2\text{mA}$ | -0.6 | | -0.75 | V |
| C_{ob} | Output Capacitance | $V_{CB} = -10\text{V}, I_E = 0$ $f=1\text{MHz}$ | | 4.5 | 7.0 | pF |
| f_T | Current Gain Bandwidth Product | $V_{CE} = -5\text{V}, I_C = -10\text{mA}$ | 100 | 190 | | MHz |
| NF | Noise Figure | $V_{CE} = -5\text{V}, I_C = -0.2\text{mA}$ $f=1\text{KHz}, R_S=1\text{K}\Omega$ | | 0.7 | 10 | dB |

h_{FE} Classification

| Classification | A | B | C | D |
|----------------|----------|-----------|-----------|------------|
| h_{FE} | 60 ~ 150 | 100 ~ 300 | 200 ~ 600 | 400 ~ 1000 |

Typical Characteristics

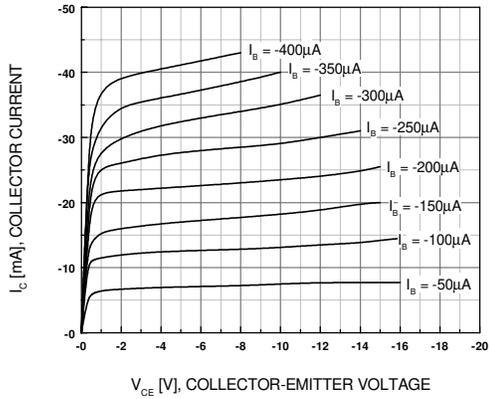


Figure 1. Static Characteristic

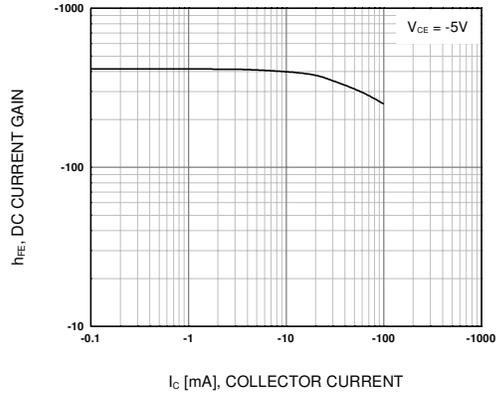


Figure 2. DC current Gain

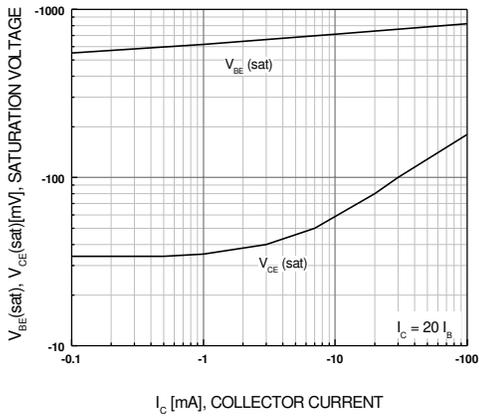


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

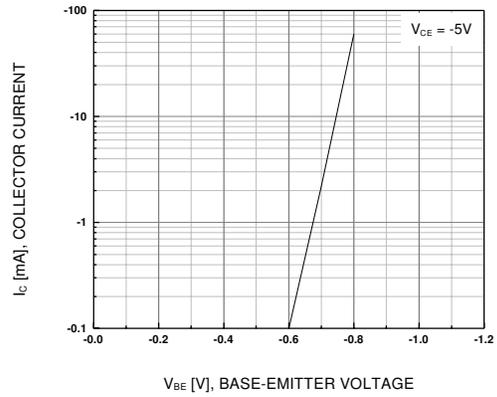


Figure 4. Base-Emitter On Voltage

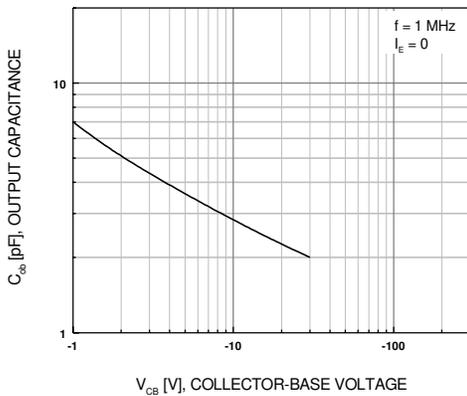


Figure 5. Collector Output Capacitance

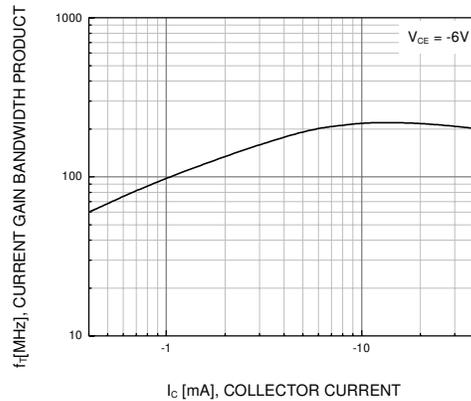
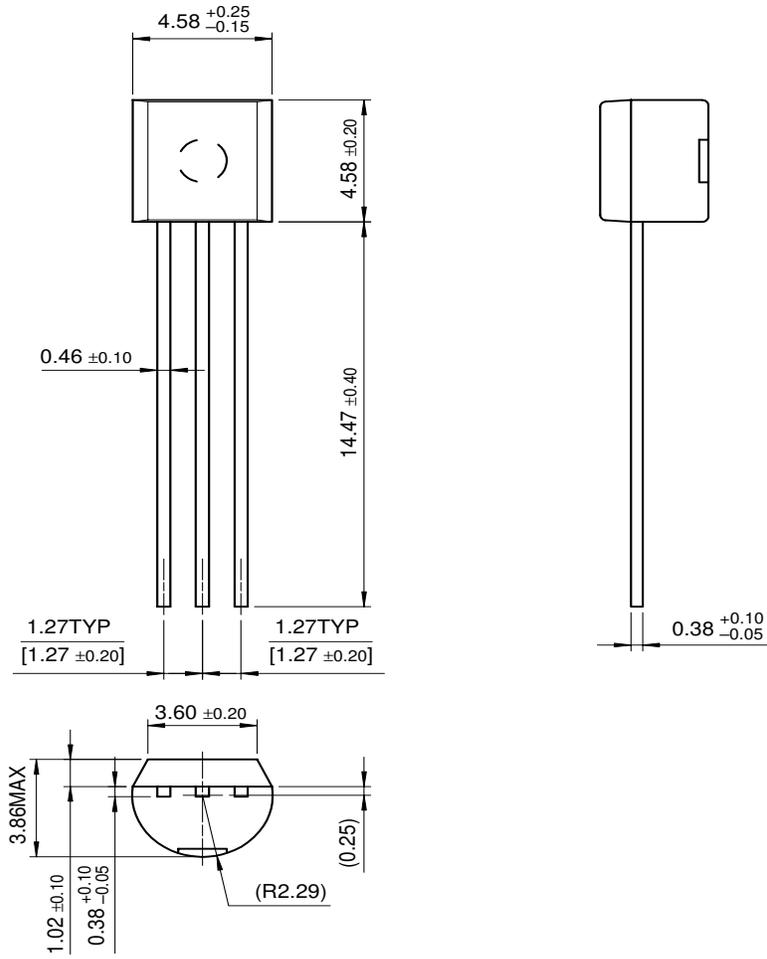


Figure 6. Current Gain Bandwidth Product

Package Dimensions

TO-92



Dimensions in Millimeters

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| | | | | |
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| DOMET™ | HiSeC™ | Power247™ | SuperSOT™-3 | |
| EcoSPARK™ | I ² C™ | PowerTrench® | SuperSOT™-6 | |
| E ² CMOS™ | ISOPLANAR™ | QFET™ | SuperSOT™-8 | |
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