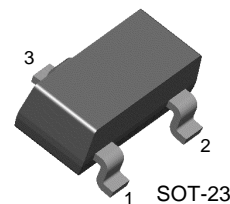


FJV1845

Amplifier Transistor

- Complement to FJV992



SOT-23
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_{CB0} | Collector-Base Voltage | 120 | V |
| V_{CEO} | Collector-Emitter Voltage | 120 | V |
| V_{EBO} | Emitter-Base Voltage | 5 | V |
| I_C | Collector Current | 50 | mA |
| I_B | Base Current | 10 | mA |
| P_C | Collector Dissipation | 300 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | -55 ~ 150 | $^\circ\text{C}$ |

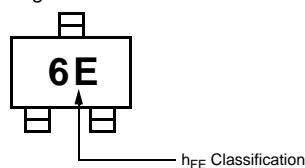
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|------------------------|--------------------------------------|--|------------|------------|------|-------|
| I_{CBO} | Collector Cut-off Current | $V_{CB}=120\text{V}, I_E=0$ | | | 50 | nA |
| I_{EBO} | Emitter Cut-off Current | $V_{EB}=5\text{V}, I_C=0$ | | | 50 | nA |
| h_{FE1} h_{FE2} | DC Current Gain | $V_{CE}=6\text{V}, I_C=0.1\text{mA}$ $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 150 200 | 580 600 | 1200 | |
| $V_{BE}(\text{on})$ | Base-Emitter On Voltage | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 0.55 | 0.59 | 0.65 | V |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=10\text{mA}, I_B=1\text{mA}$ | | 0.07 | 0.3 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE}=6\text{V}, I_C=1\text{mA}$ | 50 | 110 | | MHz |
| C_{ob} | Output Capacitance | $V_{CB}=30\text{V}, I_E=0, f=1\text{MHz}$ | | 1.6 | 2.5 | pF |

h_{FE2} Classification

| Classification | P | F | E | U |
|----------------|-----------|-----------|-----------|------------|
| h_{FE2} | 200 ~ 400 | 300 ~ 600 | 400 ~ 800 | 600 ~ 1200 |

Marking



Typical Characteristics

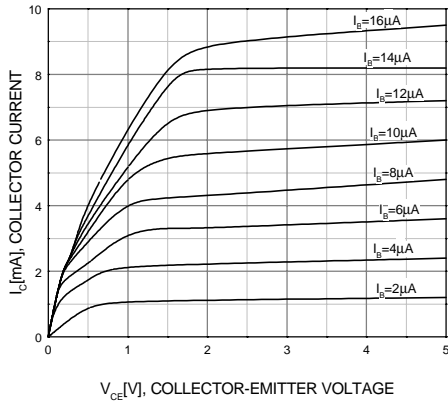


Figure 1. Static Characteristic

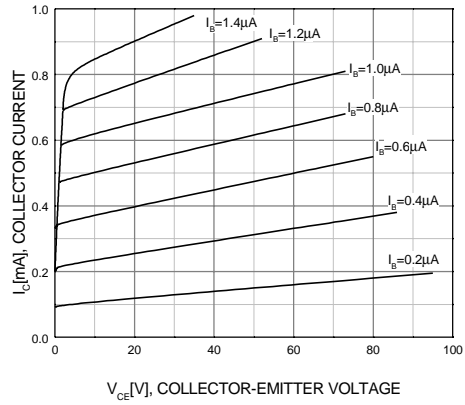


Figure 2. Static Characteristic

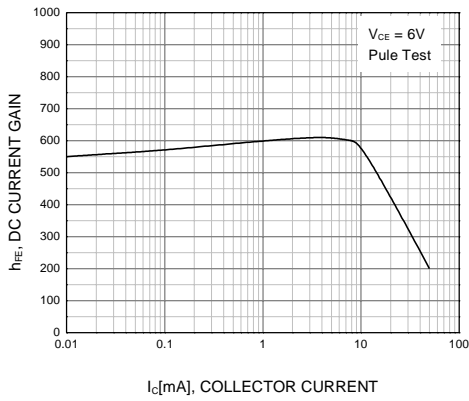


Figure 3. DC current Gain

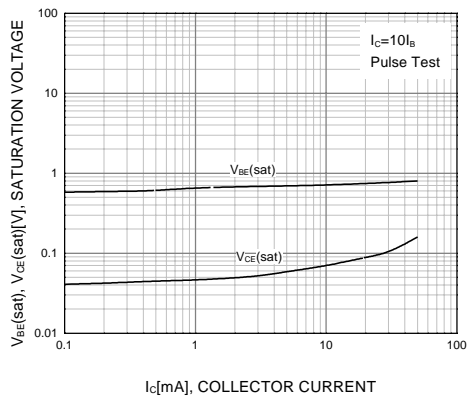


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

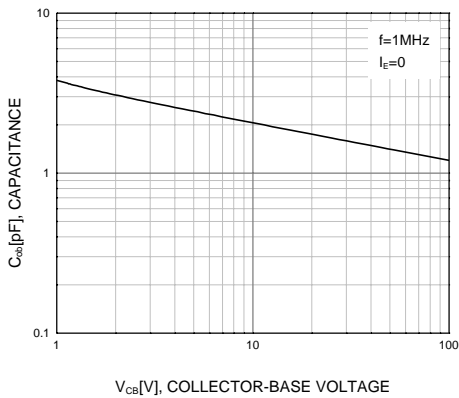


Figure 5. Collector Output Capacitance

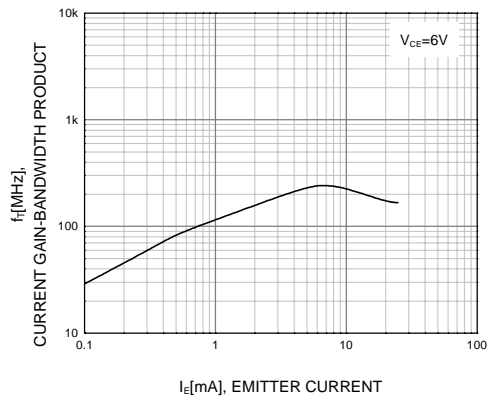


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

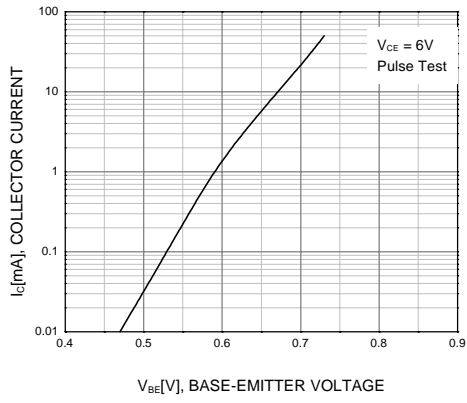


Figure 7. Collector Current vs. Base-Emitter Voltage

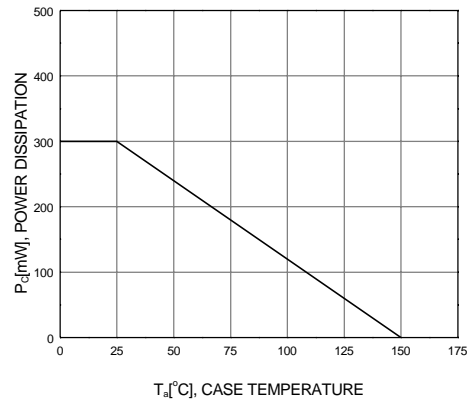


Figure 8. Power Derating

Package Dimensions

SOT-23



Dimensions in Millimeters

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