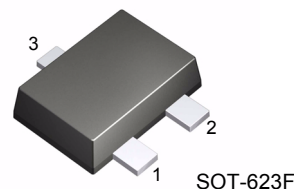


# FJZ733

FJZ733

## Low Frequency Amplifier

- Collector-Base Voltage :  $V_{CBO} = -60V$
- Complement to FJZ945



1. Base 2. Emitter 3. Collector

## PNP Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a = 25^\circ C$ unless otherwise noted

| Symbol    | Parameter                   | Ratings   | Units      |
|-----------|-----------------------------|-----------|------------|
| $V_{CBO}$ | Collector-Base Voltage      | -60       | V          |
| $V_{CEO}$ | Collector-Emitter Voltage   | -50       | V          |
| $V_{EBO}$ | Emitter-Base Voltage        | -5        | V          |
| $I_C$     | Collector Current           | -150      | mA         |
| $P_C$     | Collector Power Dissipation | 100       | mW         |
| $T_J$     | Junction Temperature        | 150       | $^\circ C$ |
| $T_{STG}$ | Storage Temperature         | -55 ~ 150 | $^\circ C$ |

### Electrical Characteristics $T_a = 25^\circ C$ unless otherwise noted

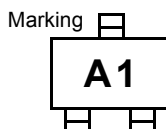
| Symbol        | Parameter                            | Test Condition                                          | Min.  | Typ.  | Max.  | Units |
|---------------|--------------------------------------|---------------------------------------------------------|-------|-------|-------|-------|
| $BV_{CBO}$    | Collector-Base Breakdown Voltage     | $I_C = -100\mu A, I_E = 0$                              | -60   |       |       | V     |
| $BV_{CEO}$    | Collector-Emitter Breakdown Voltage  | $I_C = -10mA, I_B = 0$                                  | -50   |       |       | V     |
| $BV_{EBO}$    | Emitter-Base Breakdown Voltage       | $I_E = -10\mu A, I_C = 0$                               | - 5   |       |       | V     |
| $I_{CBO}$     | Collector Cut-off Current            | $V_{CB} = -60V, I_E = 0$                                |       |       | -100  | nA    |
| $I_{EBO}$     | Emitter Cut-off Current              | $V_{EB} = -5V, I_C = 0$                                 |       |       | -100  | nA    |
| $h_{FE}$      | DC Current Gain                      | $V_{CE} = -6V, I_C = -1mA$                              | 40    |       | 700   |       |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -100mA, I_B = -10mA$                             |       | -0.18 | -0.3  | V     |
| $V_{BE(on)}$  | Base-Emitter On Voltage              | $V_{CE} = -6V, I_C = -1mA$                              | -0.50 | -0.62 | -0.80 | V     |
| $f_T$         | Current Gain Bandwidth Product       | $V_{CE} = -6V, I_C = -10mA$                             | 50    | 180   |       | MHz   |
| $C_{ob}$      | Output Capacitance                   | $V_{CB} = -10V, I_E = 0, f = 1MHz$                      |       | 2.8   |       | pF    |
| NF            | Noise Figure                         | $V_{CE} = -6V, I_C = -0.3mA, f = 1MHz, R_s = 10k\Omega$ |       | 6.0   |       | dB    |

### Thermal Characteristics $T_C = 25^\circ C$ unless otherwise noted

| Symbol          | Parameter                               | Max. | Units        |
|-----------------|-----------------------------------------|------|--------------|
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient | 1250 | $^\circ C/W$ |

### $h_{FE}$ Classification & Marking

| Classification | R       | O        | Y         | G         | L         |
|----------------|---------|----------|-----------|-----------|-----------|
| $h_{FE}$       | 40 ~ 80 | 70 ~ 140 | 120 ~ 240 | 200 ~ 400 | 350 ~ 700 |
| Marking        | A2      | A3       | A1        | A4        | A5        |



## Typical Characteristics

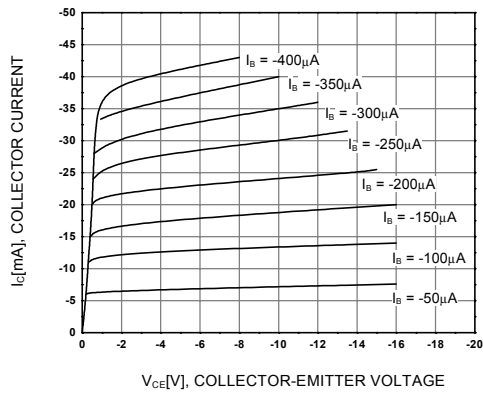


Figure 1. Static Characteristic

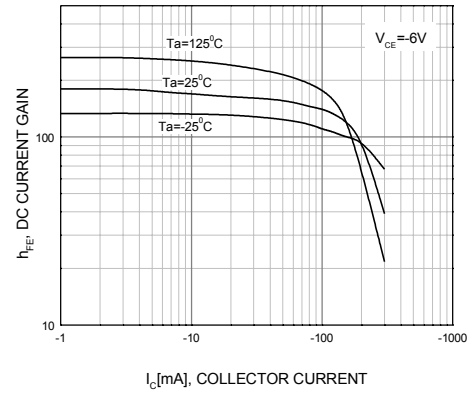


Figure 2. DC Current Gain

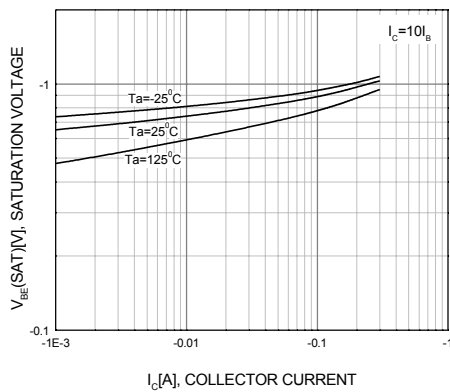


Figure 3. Base-Emitter Saturation Voltage

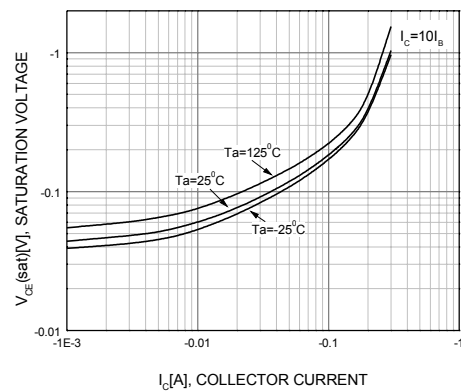


Figure 4. Collector-Emitter Saturation Voltage

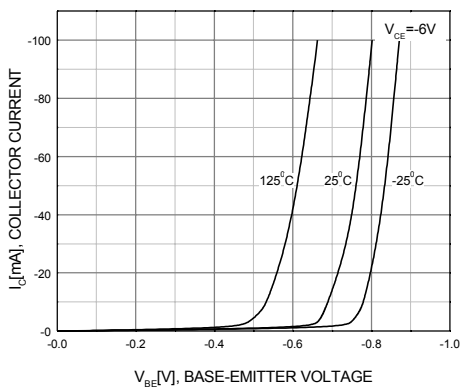


Figure 5. Base-Emitter On Voltage

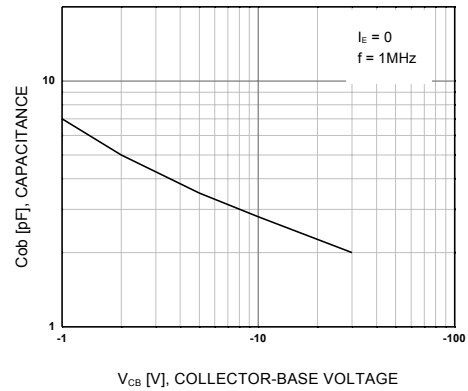


Figure 6. Collector Output Capacitance

# Typical Characteristics (Continued)

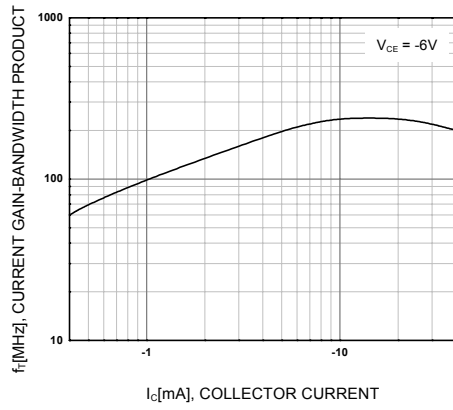
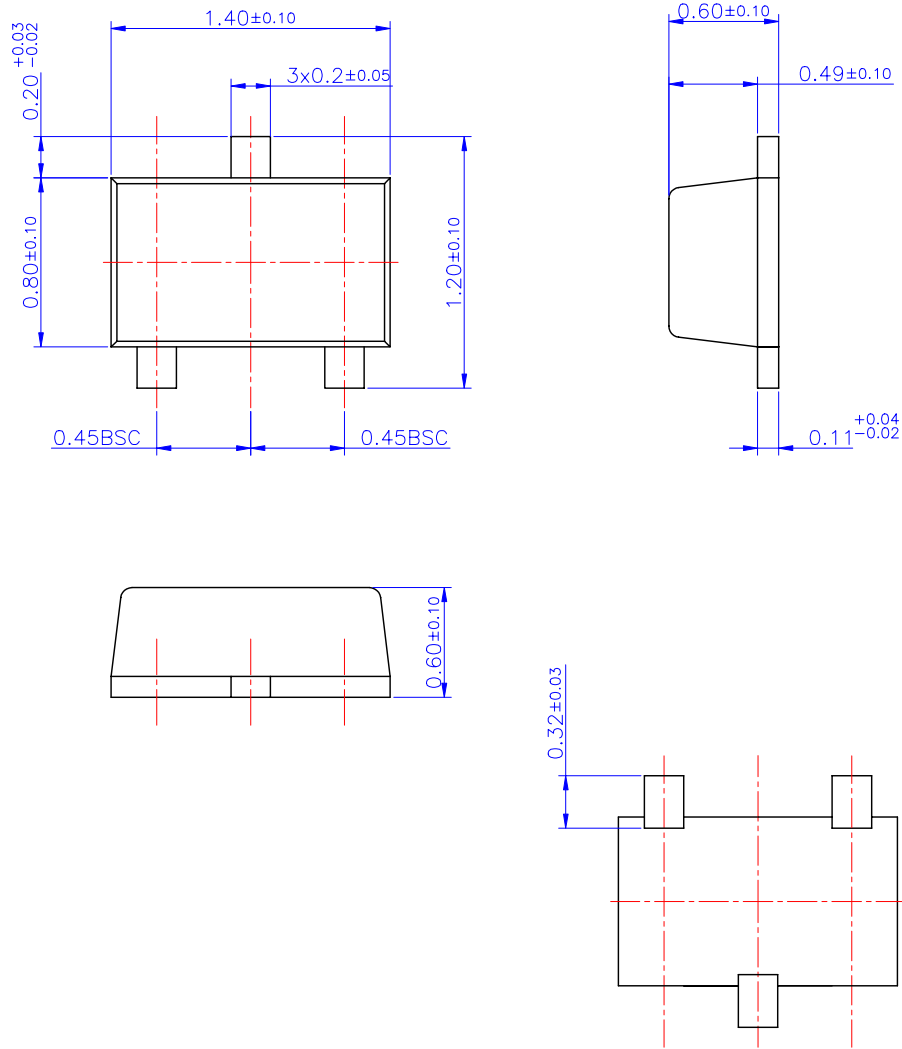


Figure 7. Current Gain Bandwidth Product

# Package Dimensions

## SOT-623F



Dimensions in Millimeters

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| ActiveArray <sup>™</sup>                         | FACT Quiet Series <sup>™</sup>  | ISOPLANAR <sup>™</sup>         | POP <sup>™</sup>                | Stealth <sup>™</sup>        |
| Bottomless <sup>™</sup>                          | FAST <sup>®</sup>               | LittleFET <sup>™</sup>         | Power247 <sup>™</sup>           | SuperSOT <sup>™</sup> -3    |
| CoolFET <sup>™</sup>                             | FAST <sup>™</sup>               | MicroFET <sup>™</sup>          | PowerTrench <sup>®</sup>        | SuperSOT <sup>™</sup> -6    |
| CROSSVOLT <sup>™</sup>                           | FRFET <sup>™</sup>              | MicroPak <sup>™</sup>          | QFET <sup>®</sup>               | SuperSOT <sup>™</sup> -8    |
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