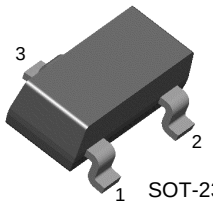
FAIRCHILD
SEMICONDUCTOR®

# KSC1623

## Low Frequency Amplifier & High Frequency OSC.

- Complement to KSA812




SOT-23

1. Base 2. Emitter 3. Collector

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_a$=25°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 | 100 | mA |
| $P_C$ | Collector Power Dissipation | 200 | mW |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | -55 ~ 150 | °C |

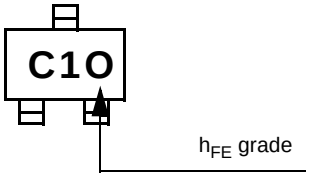
### Electrical Characteristics $T_a$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$=60V, $I_E$=0 | | | 0.1 | μA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{EB}$=5V, $I_C$=0 | | | 0.1 | μA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$=6V, $I_C$=1mA | 90 | 200 | 600 | |
| $V_{CE}$ (sat) | Collector-Emitter Saturation Voltage | $I_C$=100mA, $I_B$=10mA | | 0.15 | 0.3 | V |
| $V_{BE}$ (sat) | Base-Emitter Saturation Voltage | $I_C$=100mA, $I_B$=10mA | | 0.86 | 1.0 | V |
| $V_{BE}$ (on) | Base-Emitter On Voltage | $V_{CE}$=6V, $I_C$=1mA | 0.55 | 0.62 | 0.65 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$=6V, $I_C$=10mA | | 250 | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CB}$=6V, $I_E$=0, f=1MHz | | 3 | | pF |

### $h_{FE}$ Classification

| Classification | O | Y | G | L |
|---|---|---|---|---|
| $h_{FE}$ | 90 ~ 180 | 135 ~ 270 | 200 ~ 400 | 300 ~ 600 |

Marking




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# Typical Characteristics

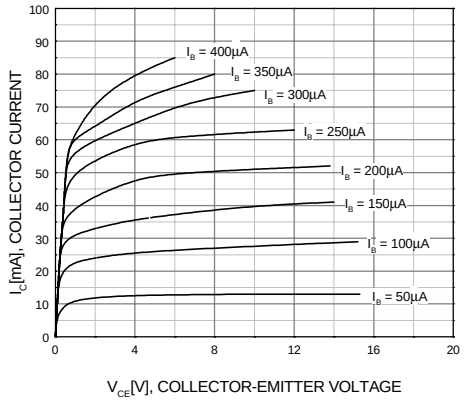



**Figure 1. Static Charactersitic**

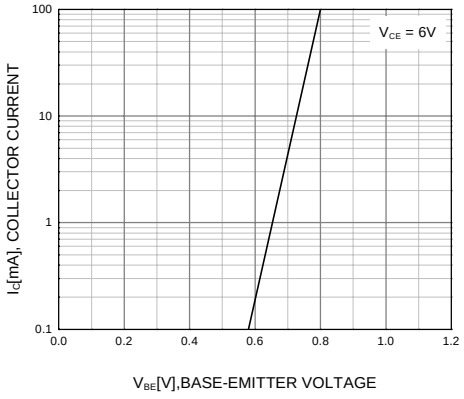



**Figure 2. Transfer Characteristic**

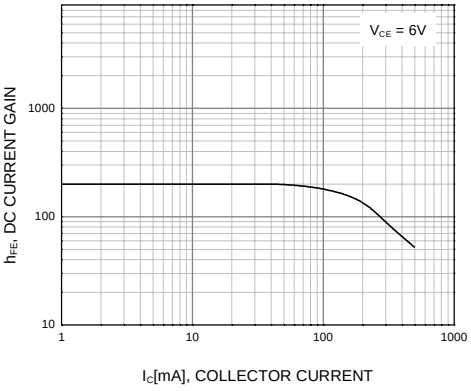



**Figure 3. DC current Gain**

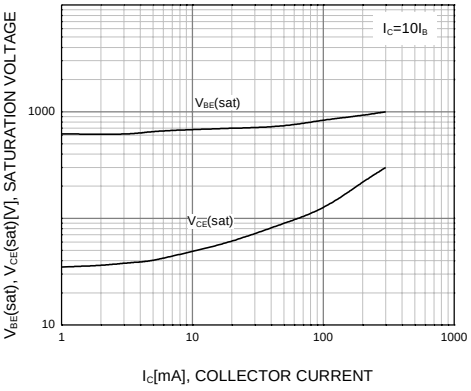



**Figure 4. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

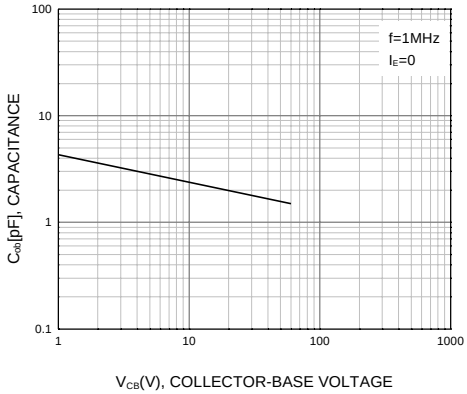



**Figure 5. Output Capacitance**

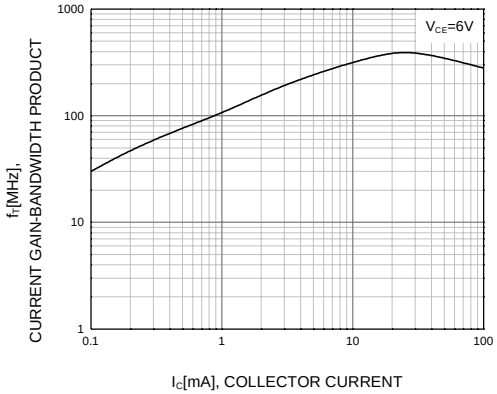
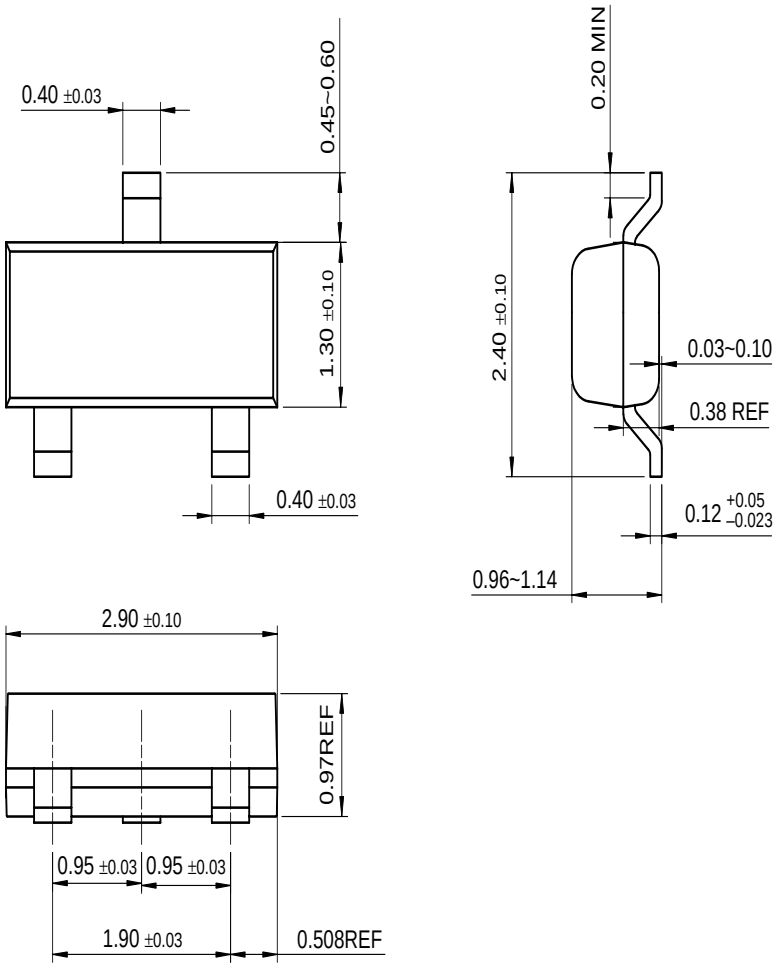



**Figure 6. Current Gain Bandwidth Product**

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## Package Dimensions

SOT-23




Dimensions in Millimeters

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| Bottomless™ | FAST® | LittleFET™ | Power247™ | SuperSOT™-3 |
| CoolFET™ | FASTr™ | MicroFET™ | PowerTrench® | SuperSOT™-6 |
| *CROSSVOLT*™ | FRFET™ | MicroPak™ | QFET™ | SuperSOT™-8 |
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| EnSigna™ | $I^2C$™ | OCX™ | RapidConfigure™ | UHC™ |
| Across the board. Around the world.™ | | OCXPro™ | RapidConnect™ | UltraFET® |
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