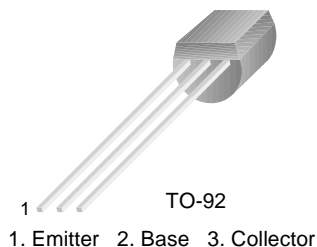


## KSD261

### Low Frequency Power Amplifier

- Complement to KSA643
- Collector Power Dissipation :  $P_C=500\text{mW}$
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



### NPN Epitaxial Silicon Transistor

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

| Symbol    | Parameter                   | Ratings   | Units            |
|-----------|-----------------------------|-----------|------------------|
| $V_{CBO}$ | Collector-Base Voltage      | 40        | V                |
| $V_{CEO}$ | Collector-Emitter Voltage   | 20        | V                |
| $V_{EBO}$ | Emitter-Base Voltage        | 5         | V                |
| $I_C$     | Collector Current           | 500       | mA               |
| $P_C$     | Collector Power Dissipation | 500       | 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     | $I_C=100\mu\text{A}$ , $I_E=0$         | 40   |      |      | V             |
| $BV_{CEO}$           | Collector-Emitter Breakdown Voltage  | $I_C=10\text{mA}$ , $I_B=0$            | 20   |      |      | V             |
| $BV_{EBO}$           | Emitter-Base Breakdown Voltage       | $I_E=100\mu\text{A}$ , $I_C=0$         | 5    |      |      | V             |
| $I_{CBO}$            | Collector Cut-off Current            | $V_{CB}=25\text{V}$ , $I_E=0$          |      |      | 0.1  | $\mu\text{A}$ |
| $I_{EBO}$            | Emitter Cut-off Current              | $V_{EB}=3\text{V}$ , $I_C=0$           |      |      | 0.1  | $\mu\text{A}$ |
| $h_{FE}$             | DC Current Gain                      | $V_{CE}=1\text{V}$ , $I_C=0.1\text{A}$ | 120  |      | 400  |               |
| $V_{CE}(\text{sat})$ | Collector-Emitter Saturation Voltage | $I_C=0.5\text{A}$ , $I_B=50\text{mA}$  |      | 0.18 | 0.4  | V             |

### $h_{FE}$ Classification

| Classification | Y         | G         |
|----------------|-----------|-----------|
| $h_{FE}$       | 120 ~ 240 | 200 ~ 400 |

# Typical Characteristics

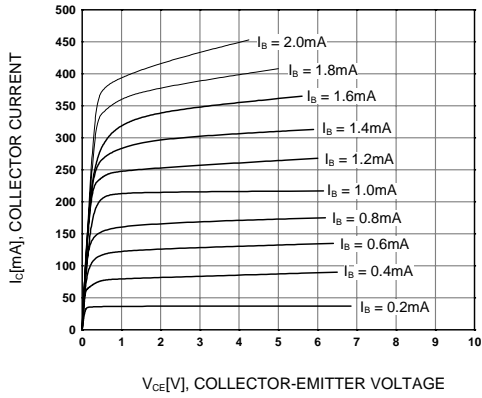


Figure 1. Static Characteristic

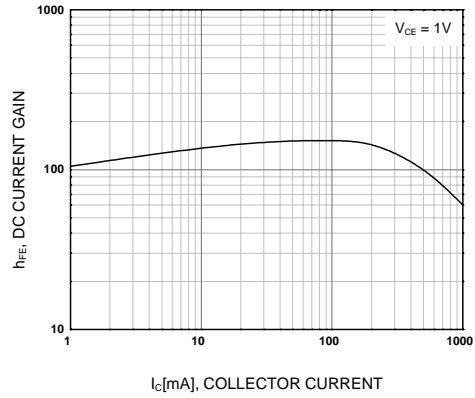


Figure 2. DC current Gain

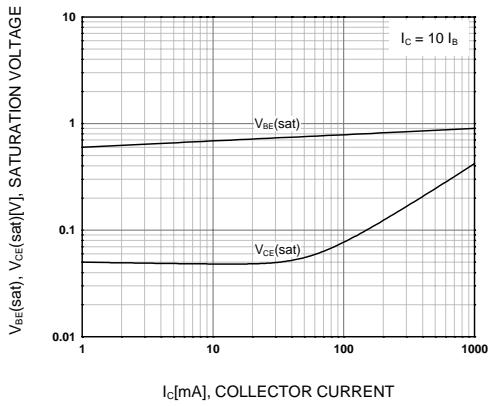


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

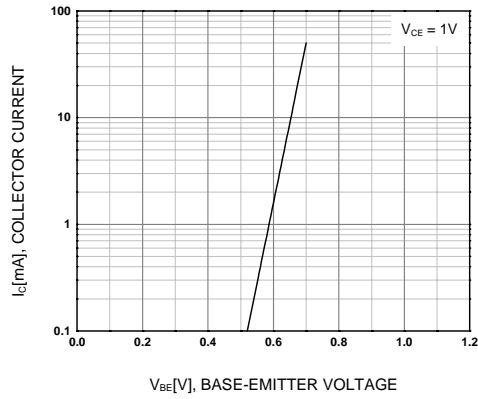


Figure 4. Base-Emitter On Voltage

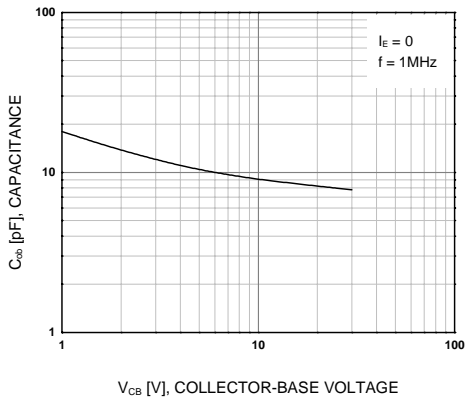
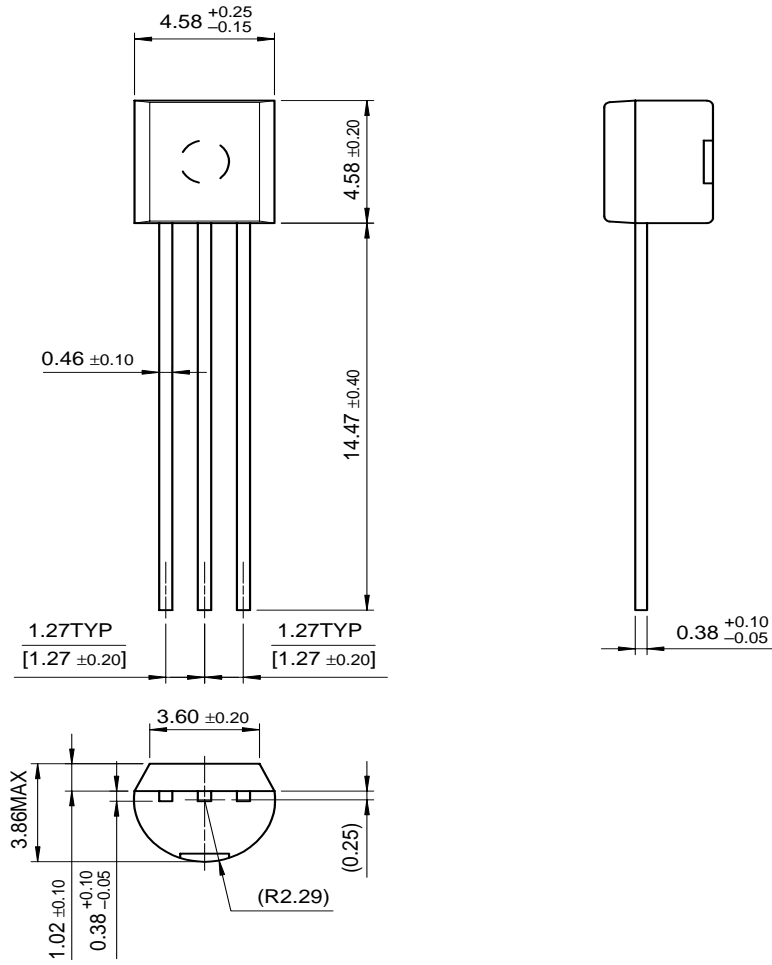


Figure 5. Collector Output Capacitance

# Package Dimensions

KSD261

## TO-92



Dimensions in Millimeters

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| CoolFET <sup>™</sup>                             | FPST <sup>™</sup>               | MICROCOUPLER <sup>™</sup>      | PowerSaver <sup>™</sup>         | SuperSOT <sup>™</sup> -3    |
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