September 2015

# KSD261
# NPN Epitaxial Silicon Transistor

## Features

- Low Frequency Power Amplifier
- Complement to KSA643
- Collector Power Dissipation : $P_C$ = 500 mW
- Suffix “-C” means Center Collector (1. Emitter 2. Collector 3. Base)
- Non Suffix “-C” means Side Collector (1. Emitter 2. Base 3. Collector)


**TO-92**
1. Emitter
2. Base
3. Collector

**Straight Lead**
**Bulk Packing**

**Bent Lead**
**Tape & Reel**
**Ammo Packing**

## Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|---|---|---|---|
| KSD261CGTA | D261 | TO-92 3L | Ammo |

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | 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 |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | -55 to 150 | °C |

## Thermal Characteristics[1]

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $P_C$ | Collector Power Dissipation | 500 | mW |
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient | 250 | °C/W |

**Note:**

1. PCB size: FR-4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

## Electrical Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| $BV_{CBO}$ | Collector-Base Breakdown Voltage | $I_C$ = 100 μA, $I_E$ = 0 | 40 | | | V |
| $BV_{CEO}$ | Collector-Emitter Breakdown Voltage | $I_C$ = 10 mA, $I_B$ = 0 | 20 | | | V |
| $BV_{EBO}$ | Emitter-Base Breakdown Voltage | $I_E$ = 100 μA, $I_C$ = 0 | 5 | | | V |
| $I_{CBO}$ | Collector Cut-Off Current | $V_{CB}$ = 25 V, $I_E$ = 0 | | | 0.1 | μA |
| $I_{EBO}$ | Emitter Cut-Off Current | $V_{EB}$ = 3 V, $I_C$ = 0 | | | 0.1 | μA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$ = 1 V, $I_C$ = 0.1 A | 120 | | 400 | |
| $V_{CE}$(sat) | Collector-Emitter Saturation Voltage | $I_C$ = 0.5 A, $I_B$ = 50 mA | | 0.18 | 0.40 | V |

## $h_{FE}$ Classification

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

## Typical Performance Characteristics

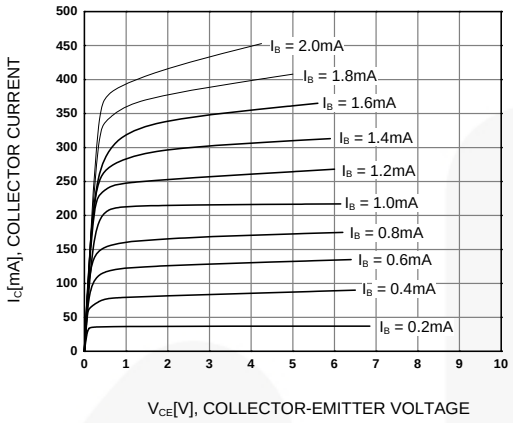


**Figure 1. Static Characteristic**

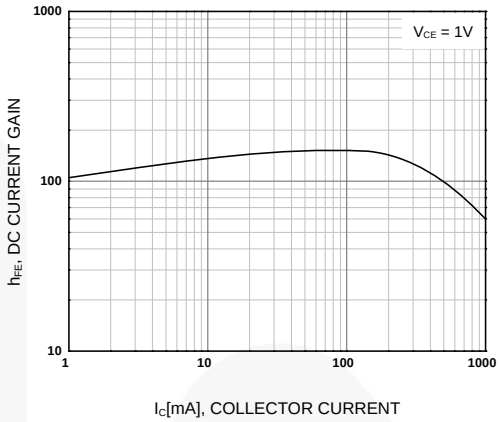


**Figure 2. DC Current Gain**

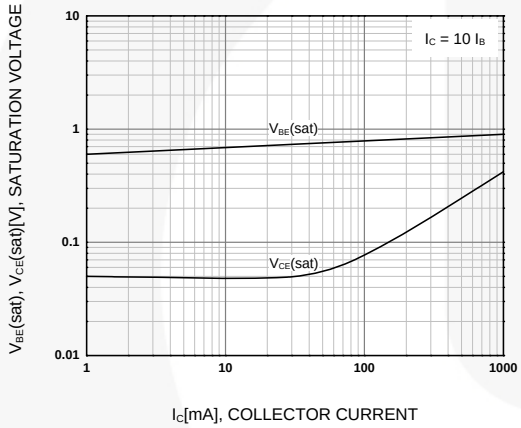


**Figure 3. Base-Emitter Saturation Voltage and Collector-Emitter Saturation Voltage**

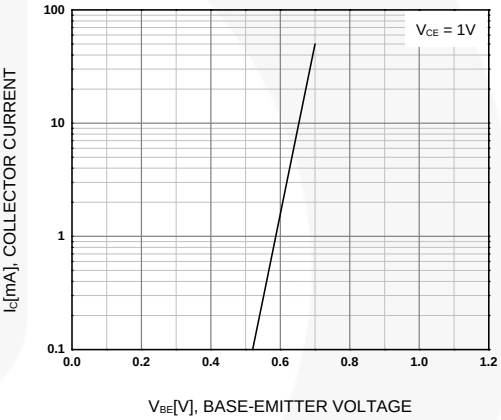


**Figure 4. Base-Emitter On Voltage**

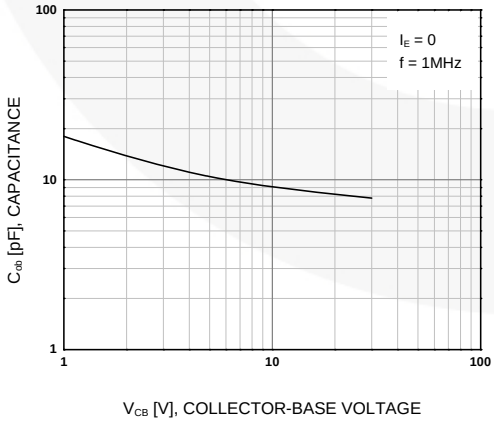


**Figure 5. Collector Output Capacitance**

## Physical Dimensions

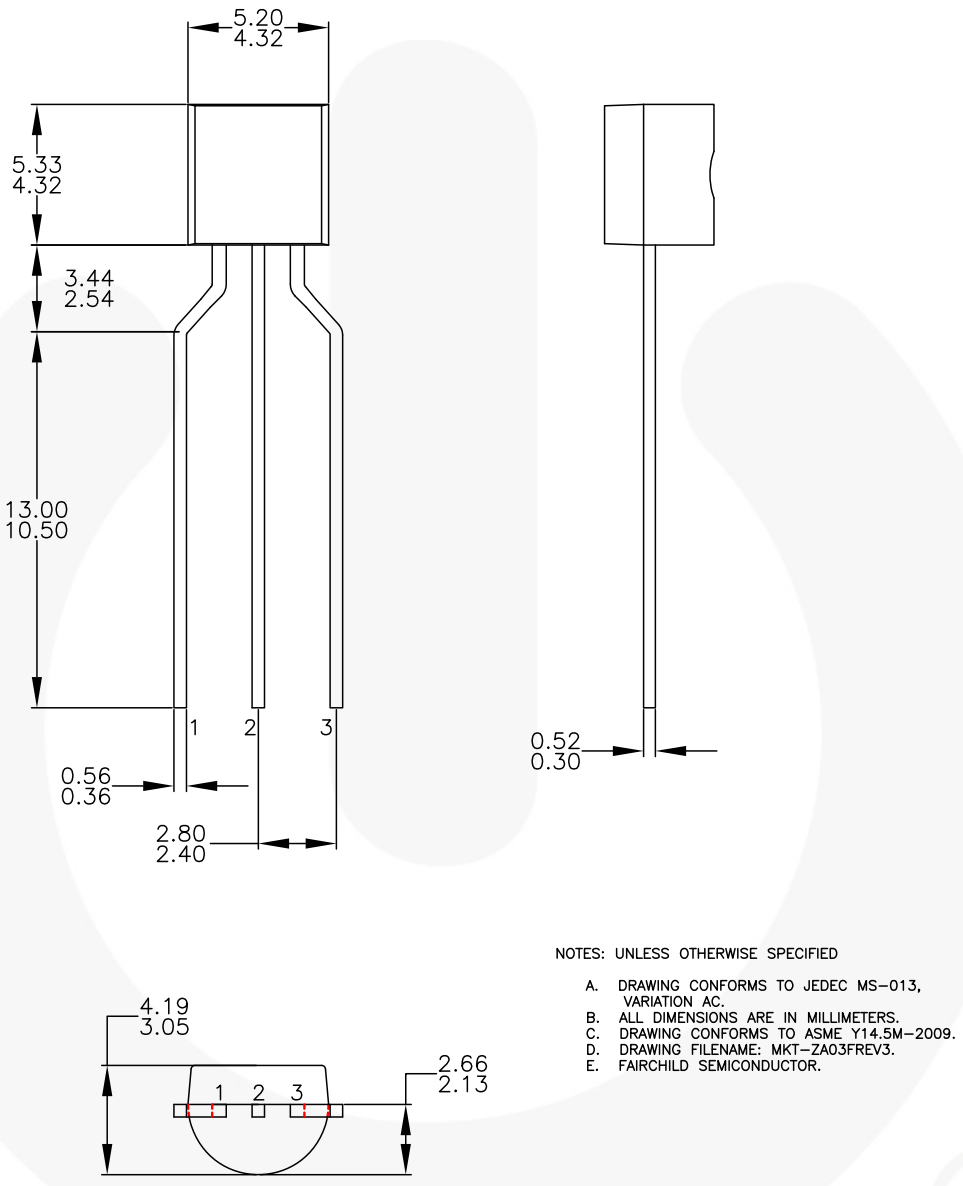


**Figure 6. 3-Lead, TO-92, Molded, 0.2 In Line Spacing Lead Form, Ammo Type**

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