

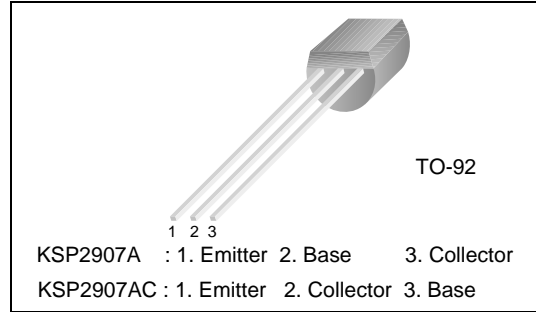


KSP2907A

PNP General Purpose Amplifier

Features

- Collector-Emitter Voltage: $V_{CE0} = 60V$
- Collector Power Dissipation: $P_C (\text{max}) = 625mW$
- Suffix "-C" means a Center Collector (1. Emitter 2. Collector 3. Base)
- Non suffix "-C" means a Side Collector (1. Emitter 2. Base 3. Collector)
- Available as PN2907A



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

| Symbol | Parameter | Value | Units |
|-----------|---------------------------|------------|------------|
| V_{CBO} | Collector-Base Voltage | -60 | V |
| V_{CEO} | Collector-Emitter Voltage | -60 | V |
| V_{EBO} | Emitter-Base Voltage | -5 | V |
| I_C | Collector current | -600 | mA |
| T_J | Junction Temperature | +150 | $^\circ C$ |
| T_{stg} | Storage Temperature | -55 ~ +150 | $^\circ C$ |

* 1. These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

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

| Symbol | Parameter | Max | Units |
|-----------------|---|------|--------------|
| P_C | Collector Power Dissipation, by $R_{\theta JA}$ | 625 | mW |
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case(note1) | 83.3 | $^\circ C/W$ |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient(note2) | 200 | $^\circ C/W$ |

Note1. Infinite heat sink.
Note2. Minimum Land pad size.

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

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---------------|--------------------------------------|---|-------------------------------|------|--------------|--------|
| $V_{(BR)CBO}$ | Collector-Base Breakdown Voltage | $I_C = -10\mu A, I_E = 0$ | -60 | | | V |
| $V_{(BR)CEO}$ | Collector-Emitter Breakdown Voltage | $I_C = -10\mu A, I_B = 0$ | -60 | | | V |
| $V_{(BR)EBO}$ | Emitter-Base Breakdown Voltage | $I_E = -10\mu A, I_C = 0$ | -5.0 | | | V |
| I_{CBO} | Collector Cutoff Current | $V_{CB} = -50V, I_E = 0$ | | | -10 | nA |
| h_{FE} | DC Current Gain | $V_{CE} = -10V, I_C = -0.1mA,$ $V_{CE} = -10V, I_C = -1mA,$ $V_{CE} = -10V, I_C = -10mA,$ $V_{CE} = -10V, I_C = -150mA,$ $V_{CE} = -10V, I_C = -500mA,$ | 75 100 100 100 50 | | 300 | |
| $V_{CE(sat)}$ | Collector-Emitter Saturation Voltage | $I_C = -150mA, I_B = -15mA$ $I_C = -500mA, I_B = -50mA$ | | | -0.4 -1.6 | V V |
| $V_{BE(sat)}$ | Base-Emitter Saturation Voltage | $I_C = -150mA, I_B = -15mA$ $I_C = -500mA, I_B = -50mA$ | | | -1.3 -2.6 | V V |
| C_{obo} | Output Capacitance | $V_{CB} = -10V, I_E = 0, f = 1.0MHz$ | | | 8 | pF |
| f_T | Current Gain Bandwidth Product | $I_C = -50mA, V_{CE} = -20V,$ $f = 100MHz$ | 200 | | | MHz |
| t_{ON} | Turn On Time | $V_{CC} = -30V, I_C = -150mA, I_{B1} = -15mA$ | | | 45 | ns |
| t_{OFF} | Turn Off Time | $V_{CC} = -6V, I_C = -150mA, I_{B1} = -15mA$ | | | 100 | ns |

* DC Item are tested by Pulse Test: Pulse Width \leq 300us, Duty Cycle \leq 2%

Package Marking and Ordering Information

| Device ^(note) | Device Marking | Package | Packing Method | Qty(pcs) | Pin Definitions |
|--------------------------|----------------|---------|----------------|----------|------------------------------|
| KSP2907ABU | KSP2907A | TO-92 | BULK | -- | 1.Emitter 2.Base 3.Collector |
| KSP2907ACBU | KSP2907AC | TO-92 | BULK | -- | 1.Emitter 2.Collector 3.Base |
| KSP2907ATA | KSP2907A | TO-92 | TAPE & AMMO | 2,000 | 1.Emitter 2.Base 3.Collector |
| KSP2907ACTA | KSP2907AC | TO-92 | TAPE & AMMO | 2,000 | 1.Emitter 2.Collector 3.Base |
| KSP2907ATF | KSP2907A | TO-92 | TAPE & REEL | 2,000 | 1.Emitter 2.Base 3.Collector |

Note : Affix "-C-" - center collector pin.
 Suffix "-BU" - Bulk packing, straight lead form.(see package dimensions)
 Suffix "-TF" - Tape & Reel packing, 0.200 In-Line Spacing lead form. (see package dimensions)
 Suffix "-TA" - Tape & AMMO packing, 0.200 In-Line Spacing lead form. (see package dimensions)

Typical Characteristics

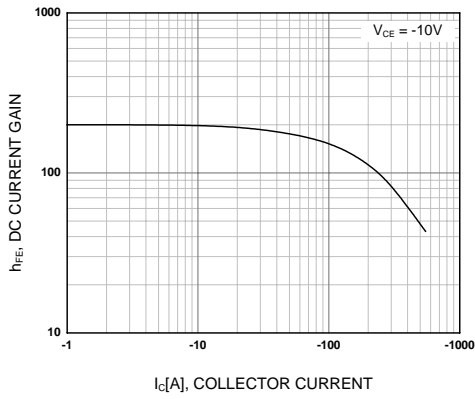


Figure 1. DC current Gain

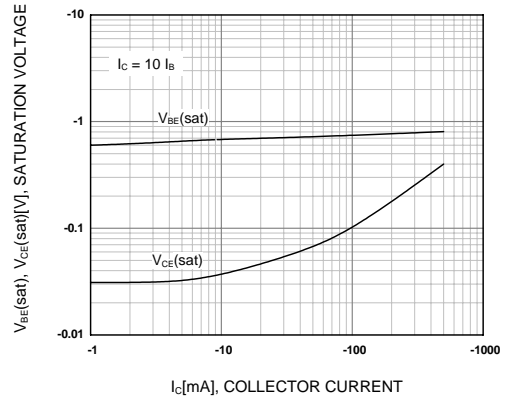


Figure 2. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

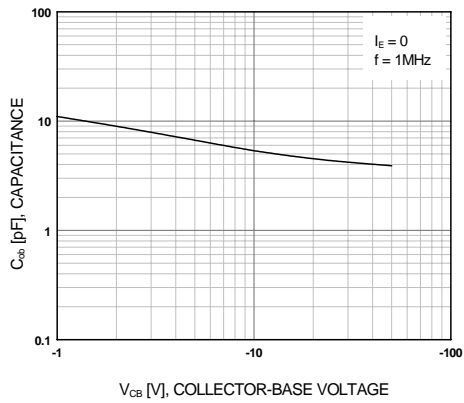


Figure 3. Output Capacitance

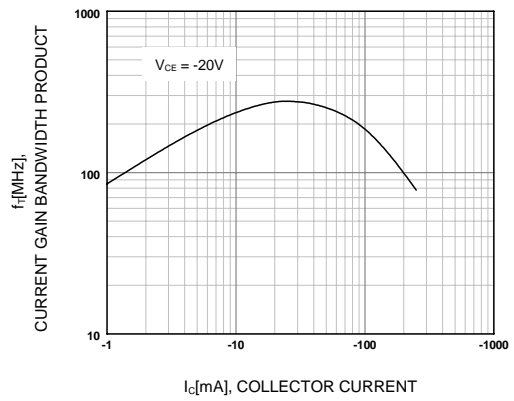
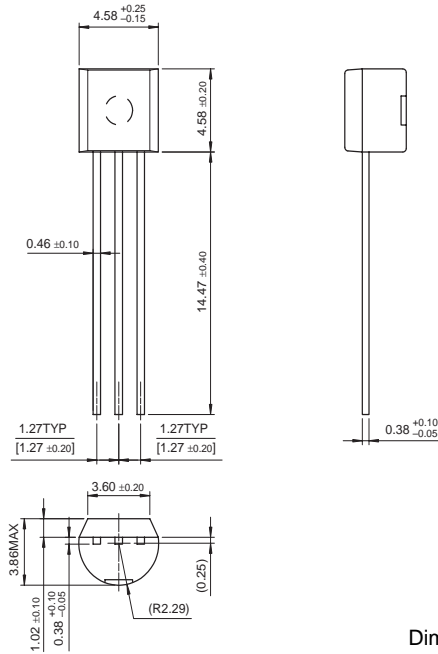


Figure 4. Current Gain Bandwidth Product

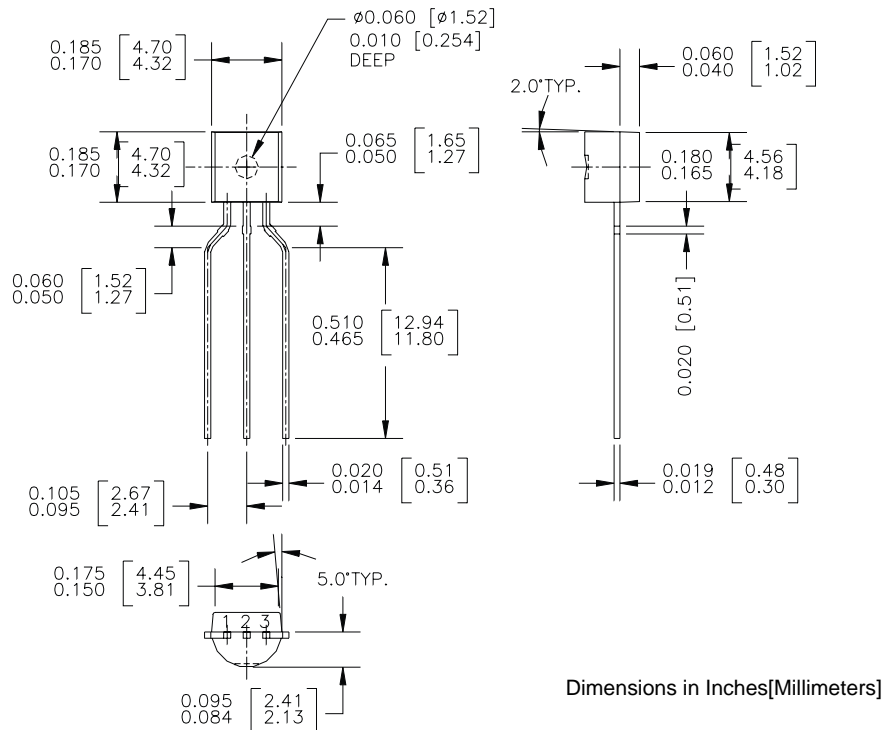
Package Dimensions

TO-92 Straight Lead Form



Dimensions in Millimeters

TO-92 0.200 In-Line Spacing Lead Form



Dimensions in Inches [Millimeters]

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