

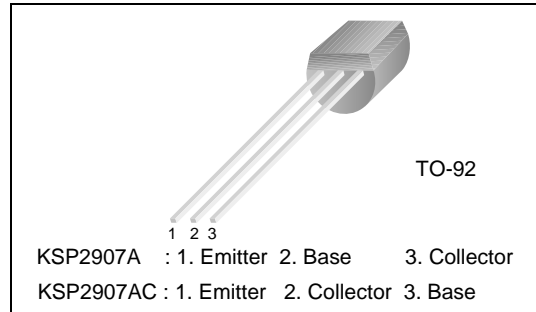


# KSP2907A

## 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 <sup>(note)</sup>	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

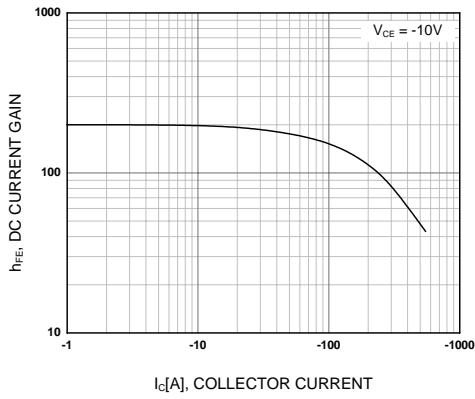


Figure 1. DC current Gain

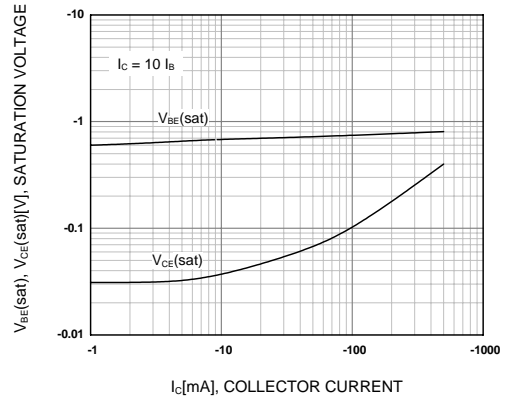


Figure 2. Collector-Emitter Saturation Voltage  
Base-Emitter Saturation Voltage

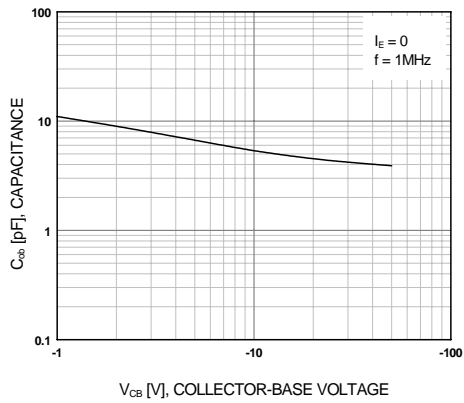


Figure 3. Output Capacitance

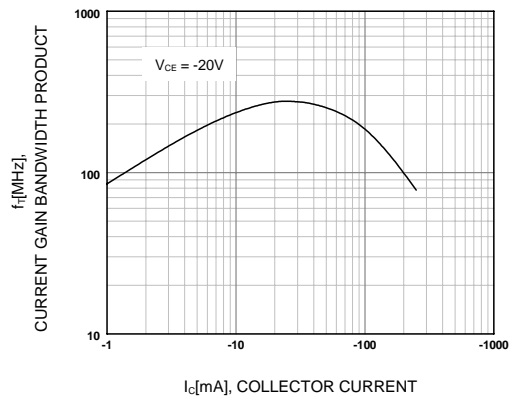
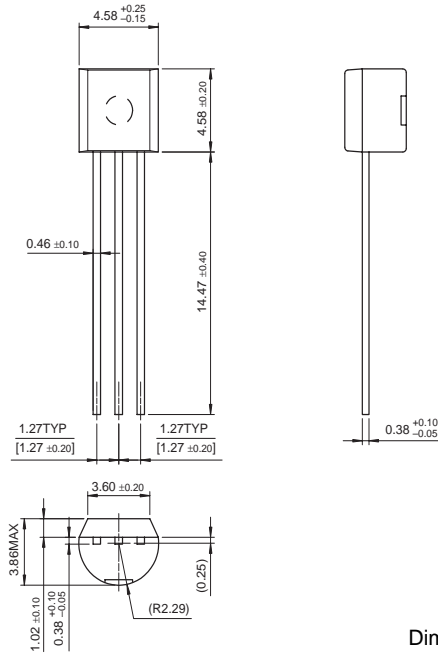


Figure 4. Current Gain Bandwidth Product

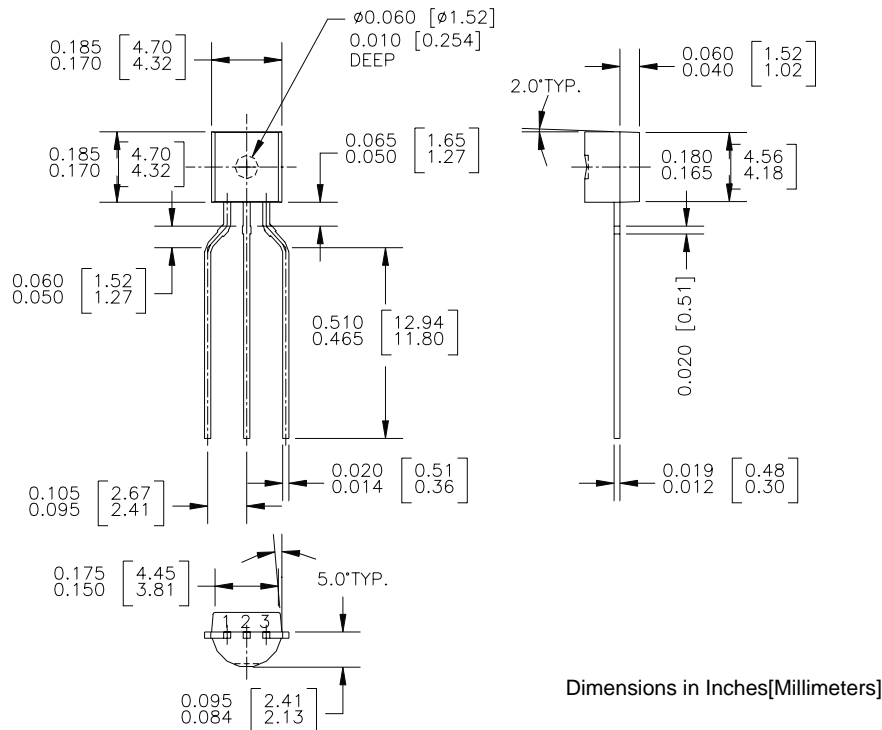
# Package Dimensions

## 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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Programmable Active Droop™				

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Rev. I20



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