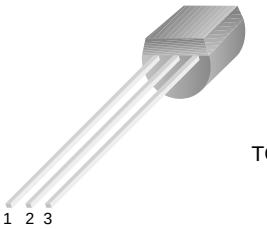
FAIRCHILD SEMICONDUCTOR®

September 2006

KSP2907A
PNP General Purpose Amplifier

Features

- Collector-Emitter Voltage: V_{CEO}= 60V
- Collector Power Dissipation: P_C (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



TO-92

KSP2907A : 1. Emitter 2. Base 3. Collector

KSP2907AC : 1. Emitter 2. Collector 3. Base

Absolute Maximum Ratings * T_a = 25°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	°C
T_{stg}	Storage Temperature	-55 ~ +150	°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°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	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient(note2)	200	°C/W

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

Electrical Characteristics * T_a = 25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$V_{(BR)CBO}$	Collector-Base Breakdown Voltage	I_C = -10μA, I_E = 0	-60			V
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	I_C = -10mA, I_B = 0	-60			V
$V_{(BR)EBO}$	Emitter-Base Breakdown Voltage	I_E = -10μA, 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}= I_{B1} = -15mA			100	ns

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

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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)

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Typical Characteristics

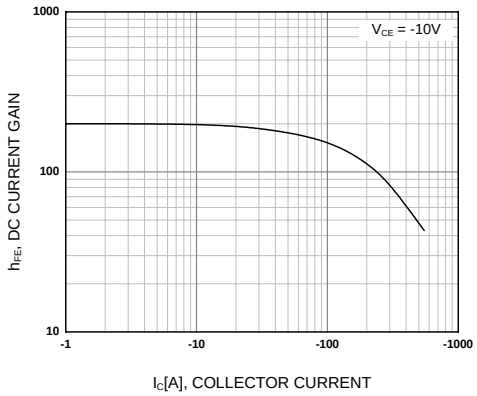

Figure 1. DC current Gain

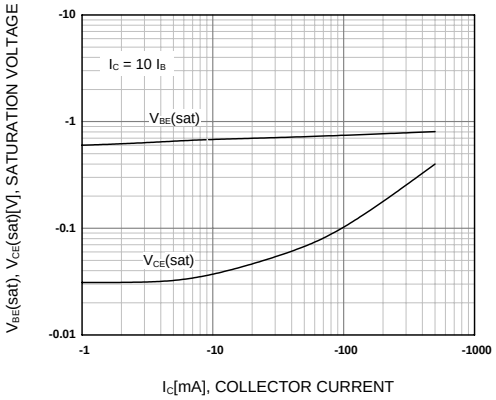

Figure 2. Collector-Emitter Saturation Voltage Base-Emitter Saturation Voltage

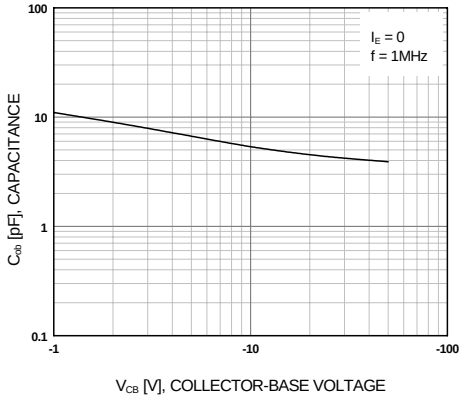

Figure 3. Output Capacitance

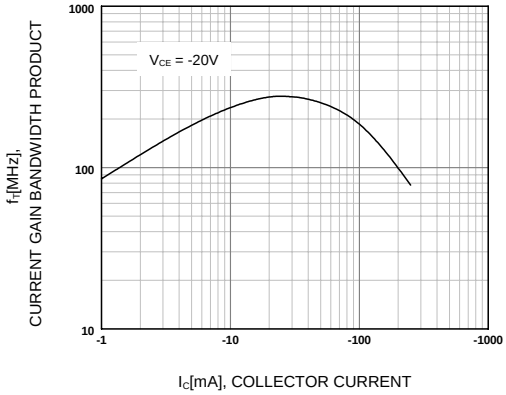

Figure 4. Current Gain Bandwidth Product

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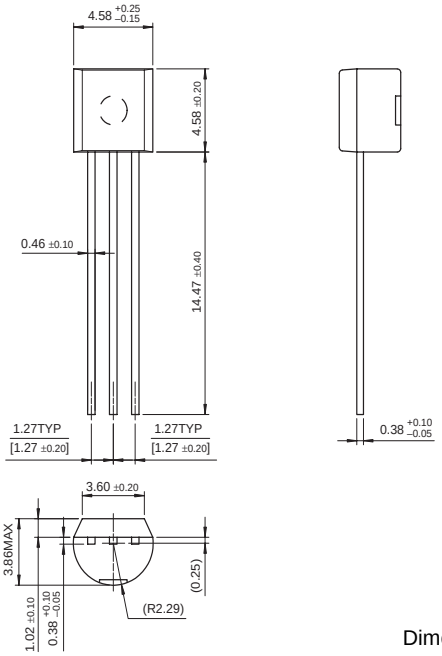
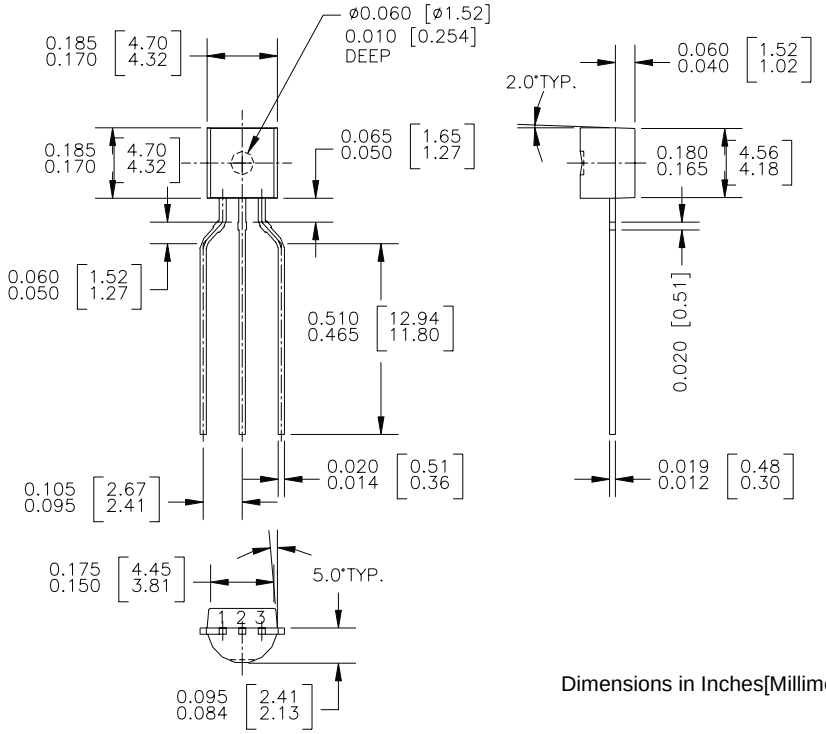
Package Dimensions

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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