

# NPN Epitaxial Silicon Transistor

## KSD471A

### Features

- Audio Frequency Power Amplifier
- Complementary to KSB1151
- Collector Current:  $I_C = 1\text{ A}$
- Collector Power Dissipation:  $P_C = 800\text{ mW}$
- Suffix “-C” means Center Collector (1. Emitter 2. Collector 3. Base)

### ABSOLUTE MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

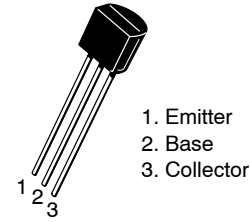
Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1	A
$P_C$	Collector Power Dissipation	800	mW
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

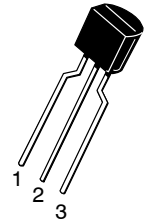
### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = 100\ \mu\text{A}, I_E = 0$	40	-	-	V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = 10\ \text{mA}, I_B = 0$	30	-	-	V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = 100\ \mu\text{A}, I_C = 0$	5	-	-	V
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 30\ \text{V}, I_E = 0$	-	-	0.1	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 1\ \text{V}, I_C = 100\ \text{mA}$	120	-	240	-
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 1\ \text{A}, I_B = 0.1\ \text{A}$	-	-	0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 1\ \text{A}, I_B = 0.1\ \text{A}$	-	-	1.2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 6\ \text{V}, I_C = 10\ \text{mA}$	-	130	-	MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 6\ \text{V}, I_E = 0, f = 1\ \text{MHz}$	-	16	-	pF

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

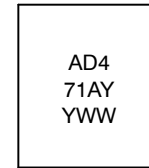


TO-92 3  
CASE 135AN



TO-92 3 LF  
CASE 135AR

### MARKING DIAGRAM

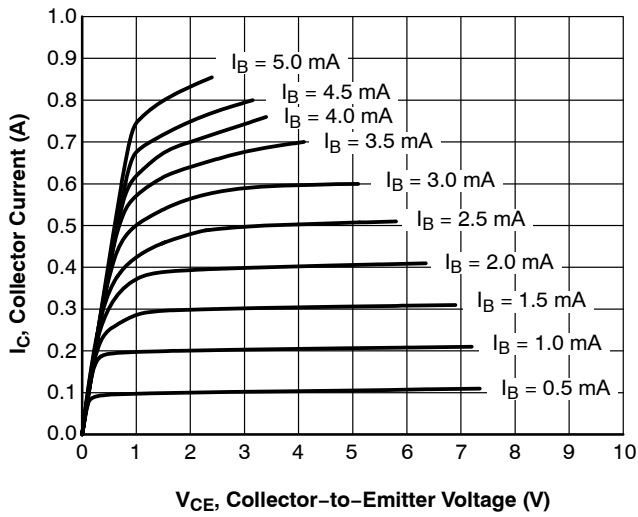


A = Assembly Code  
D471AY = Device Code  
YWW = Data Code

### ORDERING INFORMATION

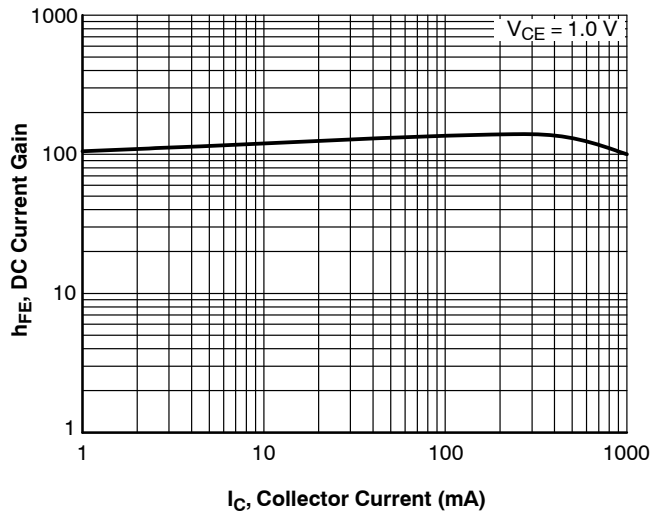
See detailed ordering and shipping information on page 3 of this data sheet.

TYPICAL CHARACTERISTICS



$V_{CE}$ , Collector-to-Emitter Voltage (V)

Figure 1. Static Characteristic



$I_C$ , Collector Current (mA)

Figure 2. DC Current Gain

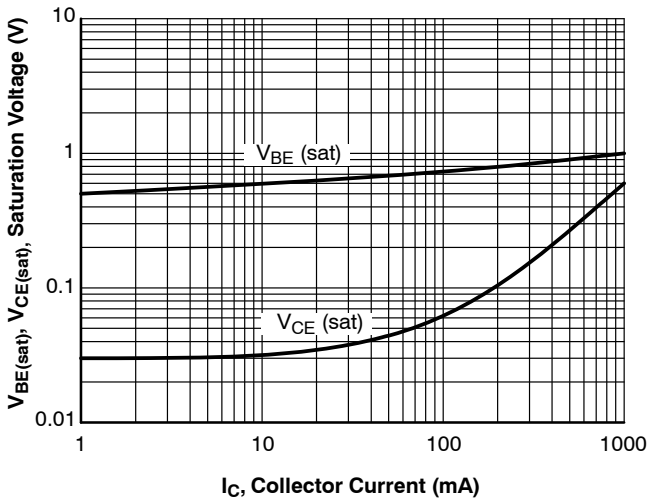


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

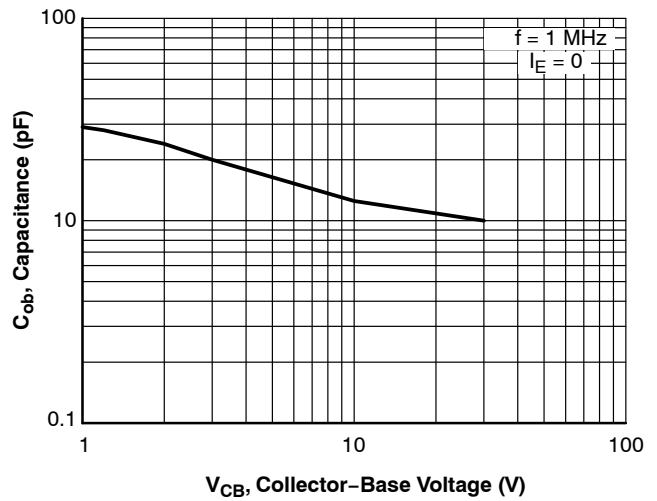


Figure 4. Collector Output Capacitance

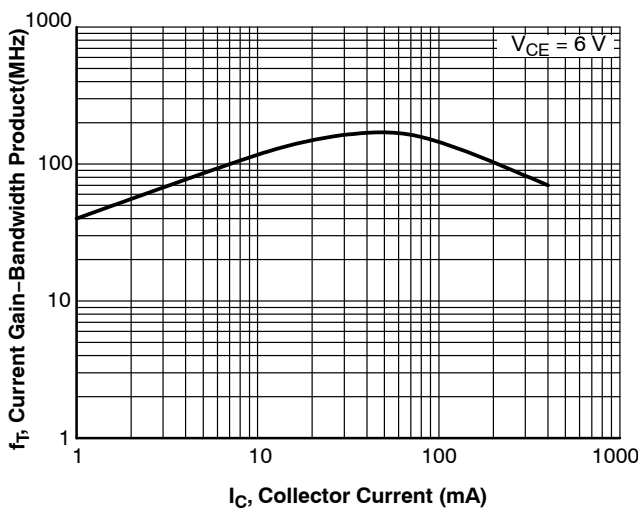


Figure 5. Current Gain Bandwidth Product

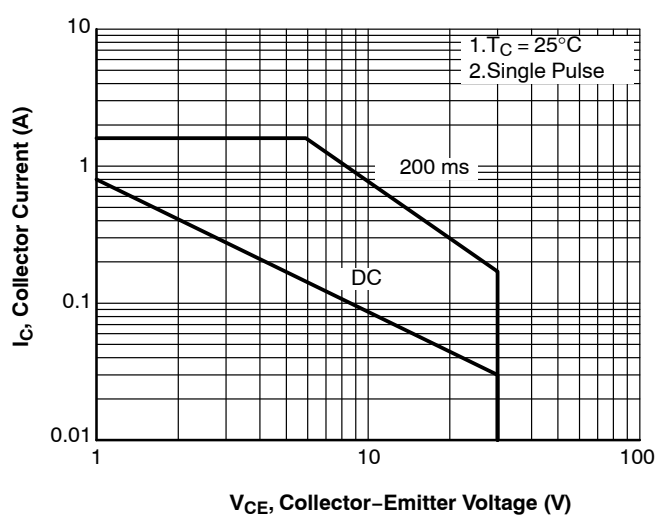


Figure 6. Safe Operating Area

# KSD471A

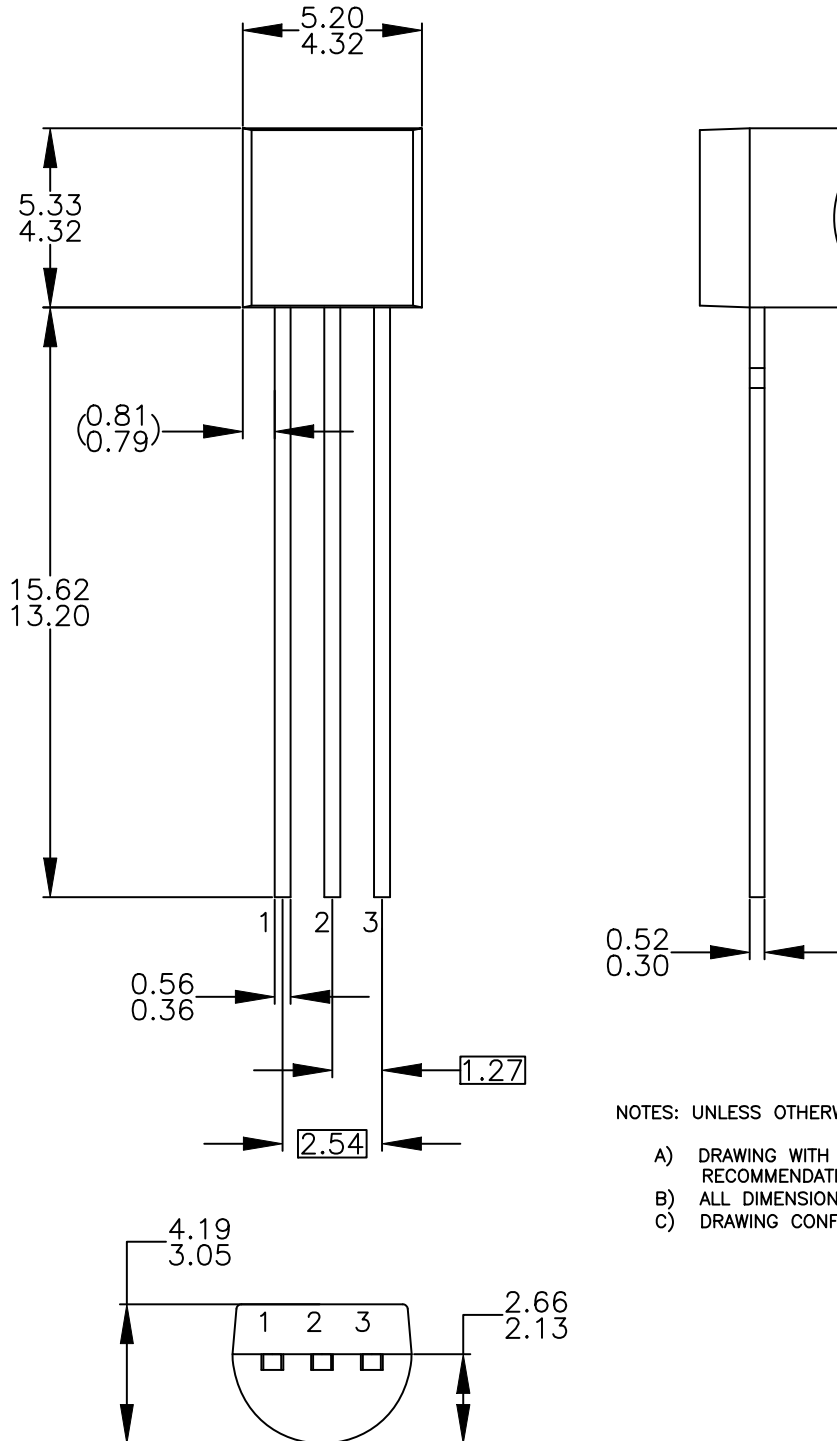
## ORDERING INFORMATION

Device	Package	Shipping
KSD471ACYTA	TO-92-3 (Pb-Free)	10000 BLKBG
KSD471ACYBU	TO-92-3LF (Pb-Free)	2000 FNFLD
KSD471AYTA	TO-92-3LF (Pb-Free)	2000 FNFLD

**MECHANICAL CASE OUTLINE**  
**PACKAGE DIMENSIONS**

TO-92 3 4.825x4.76  
CASE 135AN  
ISSUE O

DATE 31 JUL 2016



NOTES: UNLESS OTHERWISE SPECIFIED

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**TO-92 3 4.83x4.76 LEADFORMED**  
**CASE 135AR**  
**ISSUE O**

DATE 30 SEP 2016



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