

PNP Epitaxial Silicon Transistor

KSP92

Description

High Voltage Transistor

Features

- These Devices are Pb-Free, Halogen Free/BFR Free, Beryllium Free and are RoHS Compliant

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-300	V
V_{CEO}	Collector-Emitter Voltage	-300	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation ($T_a = 25^\circ\text{C}$)	625	mW
	Derate above 25°C	5	mW/ $^\circ\text{C}$
P_C	Collector Power Dissipation ($T_C = 25^\circ\text{C}$)	1.5	W
	Derate above 25°C	12	mW/ $^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55-150	$^\circ\text{C}$

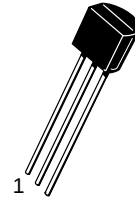
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

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

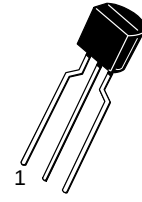
Symbol	Parameter	Test Condition	Min	Max	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100\ \mu\text{A}$, $I_E = 0$	-300	-	V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	$I_C = -1\ \text{mA}$, $I_B = 0$	-300	-	V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100\ \mu\text{A}$, $I_C = 0$	-5	-	V
I_{CBO}	Collector Cur-off Current	$V_{CB} = -200\ \text{V}$, $I_E = 0$	-	-0.25	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -3\ \text{V}$, $I_C = 0$	-	-0.10	μA
h_{FE}	* DC Current Gain	$V_{CE} = -10\ \text{V}$, $I_C = -1\ \text{mA}$ $V_{CE} = -10\ \text{V}$, $I_C = -10\ \text{mA}$ $V_{CE} = -10\ \text{V}$, $I_C = -30\ \text{mA}$	25 40 25	- - -	
$V_{CE}(\text{sat})$	*Collector-Emitter Saturation Voltage	$I_C = -20\ \text{mA}$, $I_B = -2\ \text{mA}$	-	-0.50	V
$V_{BE}(\text{sat})$	* Base-Emitter Saturation Voltage	$I_C = -20\ \text{mA}$, $I_B = -2\ \text{mA}$	-	-0.90	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -20\ \text{V}$, $I_C = -10\ \text{mA}$, $f = 100\ \text{MHz}$	50	-	MHz
C_{ob}	Output Capacitance	$V_{CB} = -20\ \text{V}$, $I_E = 0$, $f = 1\ \text{MHz}$	-	6	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.

*Pulse Test: $PW \leq 300\ \mu\text{s}$, Duty Cycle $\leq 2\%$.



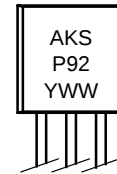
TO-92 3
4.825x4.76
CASE 135AN



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

1. Emitter
2. Base
3. Collector

MARKING DIAGRAM



KSP92 = Specific Device Code
A = Assembly Site
WW = Work Week Number
Y = Year of Production

ORDERING INFORMATION

Device	Package	Packing Method
KSP92BU	TO-92 3, CASE 135AN	10000 Units / Bulk Bag
KSP92TA	TO-92 3, CASE 135AR	2000 Units / Fan-Fold

TYPICAL PERFORMANCE CHARACTERISTICS

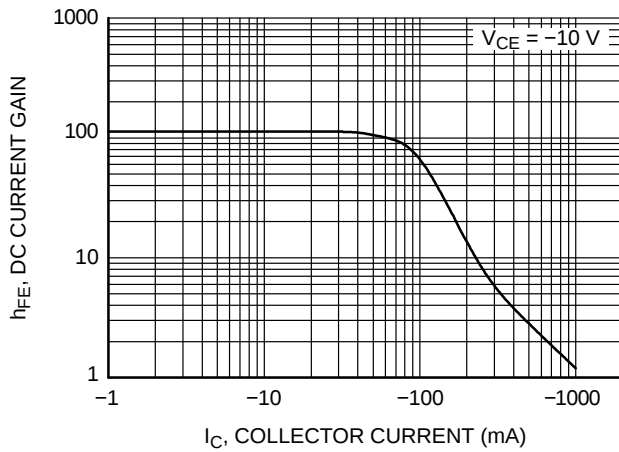


Figure 1. DC Current Gain

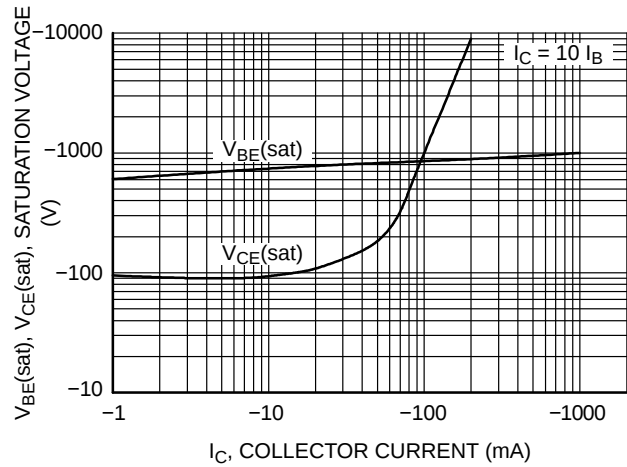


Figure 2. Saturation Voltage

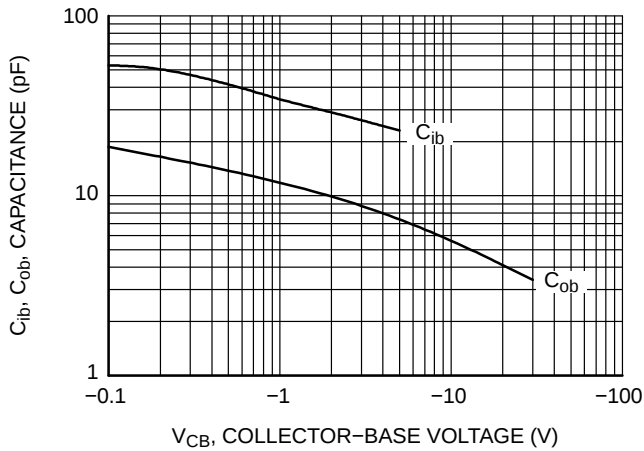


Figure 3. Capacitance

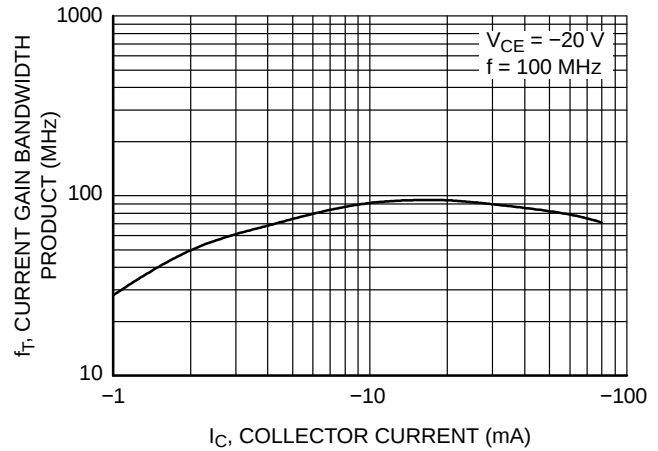


Figure 4. Current Gain Bandwidth Product

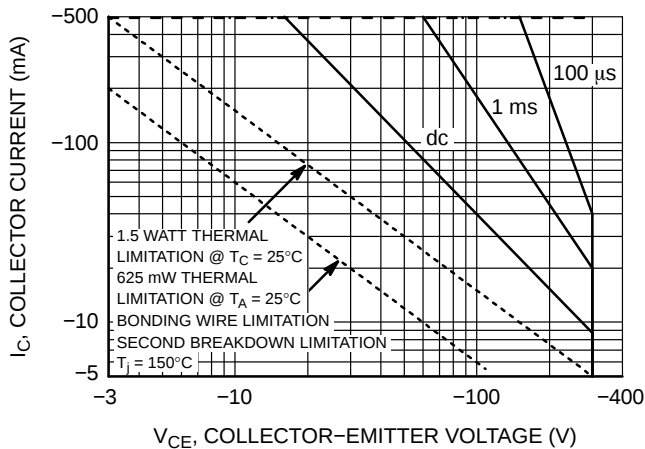
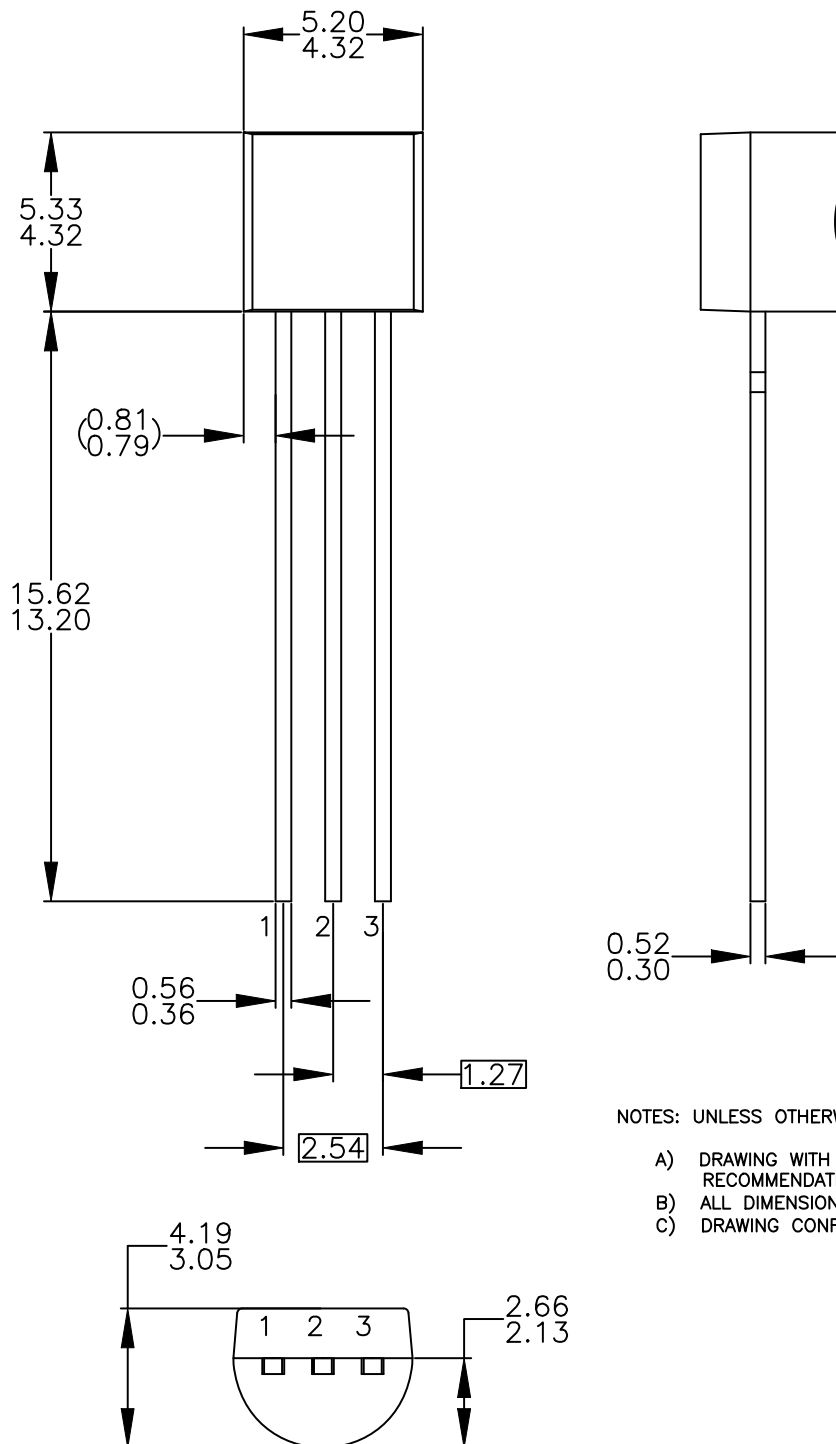


Figure 5. Active-Region Safe Operating Area

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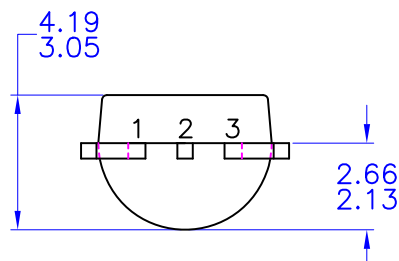
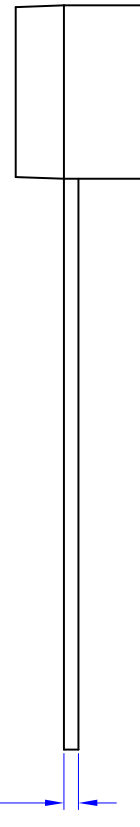
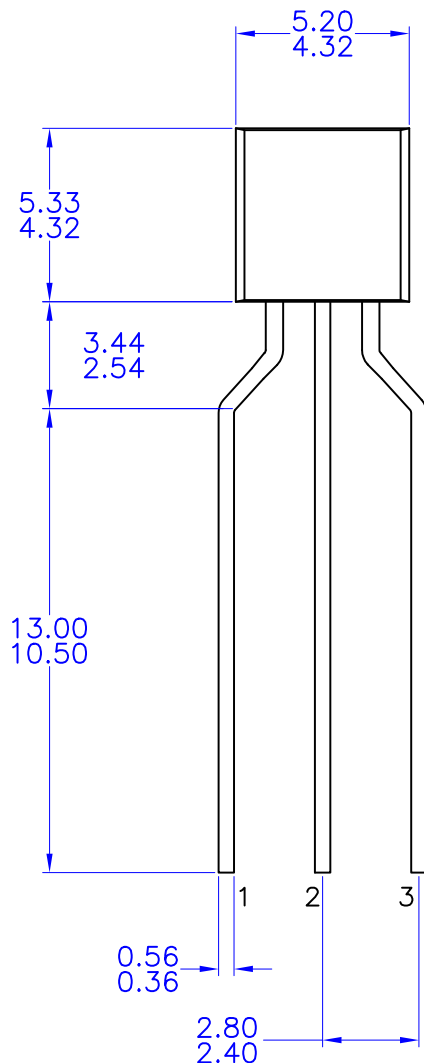
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