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KSP55 / KSP56

PNP Epitaxial Silicon Transistor

Features

- Collector-Emitter Voltage: $V_{CEO} = \text{KSP55: } -60 \text{ V}$
 $\text{KSP56: } -80 \text{ V}$
- Collector Dissipation: $P_C \text{ (max.)} = 625 \text{ mW}$
- Complement to KSP05/06



Ordering Information

Part Number	Top Mark	Package	Packing Method
KSP55TA	KSP55	TO-92 3L	Ammo
KSP56TA	KSP56	TO-92 3L	Ammo

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	KSP55	-60
		KSP56	-80
V_{CEO}	Collector-Emitter Voltage	KSP55	-60
		KSP56	-80
V_{EBO}	Emitter-Base Voltage	-4	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation	625	mW
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 to 150	$^\circ\text{C}$

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Conditions		Min.	Max.	Unit
BV_{CEO}	Collector-Emitter Breakdown Voltage ⁽¹⁾	KSP55	$I_C = -1 \text{ mA}, I_B = 0$	-60		V
		KSP56		-80		
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -100 \mu\text{A}, I_C = 0$		-4		V
I_{CBO}	Collector Cut-Off Current	KSP55	$V_{\text{CB}} = -60 \text{ V}, I_E = 0$		-0.1	μA
		KSP56	$V_{\text{CB}} = -80 \text{ V}, I_E = 0$		-0.1	
I_{CEO}	Collector Cut-Off Current	$V_{\text{CE}} = -60 \text{ V}, I_B = 0$			-0.1	μA
h_{FE}	DC Current Gain	$V_{\text{CE}} = -1 \text{ V}, I_C = -10 \text{ mA}$		50		
		$V_{\text{CE}} = -1 \text{ V}, I_C = -100 \text{ mA}$		50		
$V_{\text{CE}}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$			-0.25	V
$V_{\text{BE}}(\text{on})$	Base-Emitter On Voltage	$V_{\text{CE}} = -1 \text{ V}, I_C = -100 \text{ mA}$			-1.2	V
f_T	Current Gain Bandwidth Product	$V_{\text{CE}} = -2 \text{ V}, I_C = -10 \text{ mA}, f = 100 \text{ MHz}$		105		MHz

Note:

1. Pulse test: pulse width $\leq 300 \mu\text{s}$, duty cycle $\leq 2\%$.

Typical Performance Characteristics

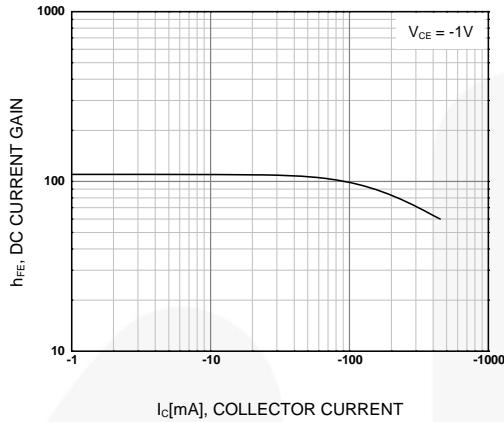


Figure 1. DC Current Gain

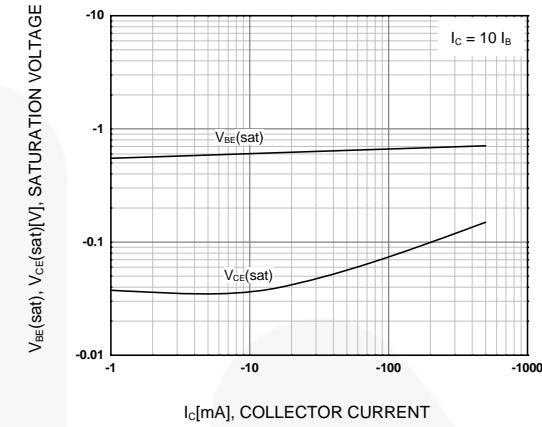


Figure 2. Collector-Emitter Saturation Voltage and Base-Emitter Saturation Voltage

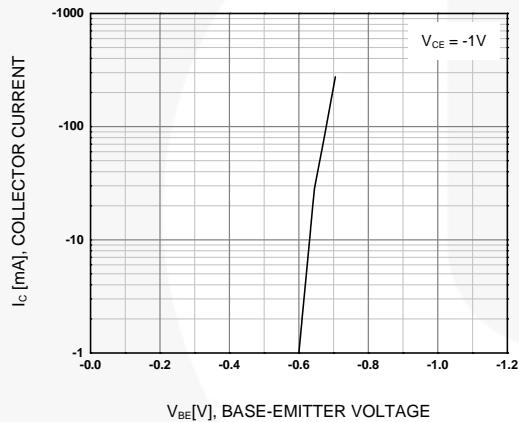


Figure 3. Base-Emitter On Voltage

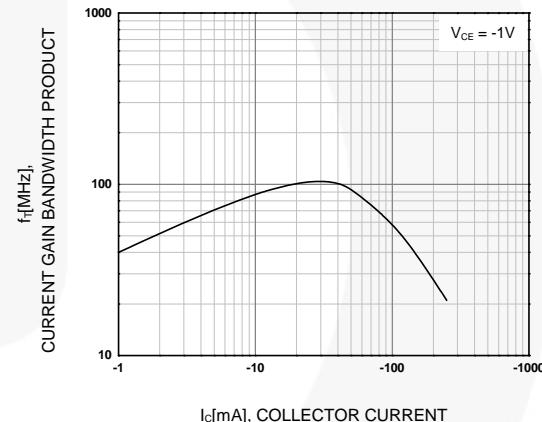


Figure 4. Current Gain Bandwidth Product

Physical Dimensions

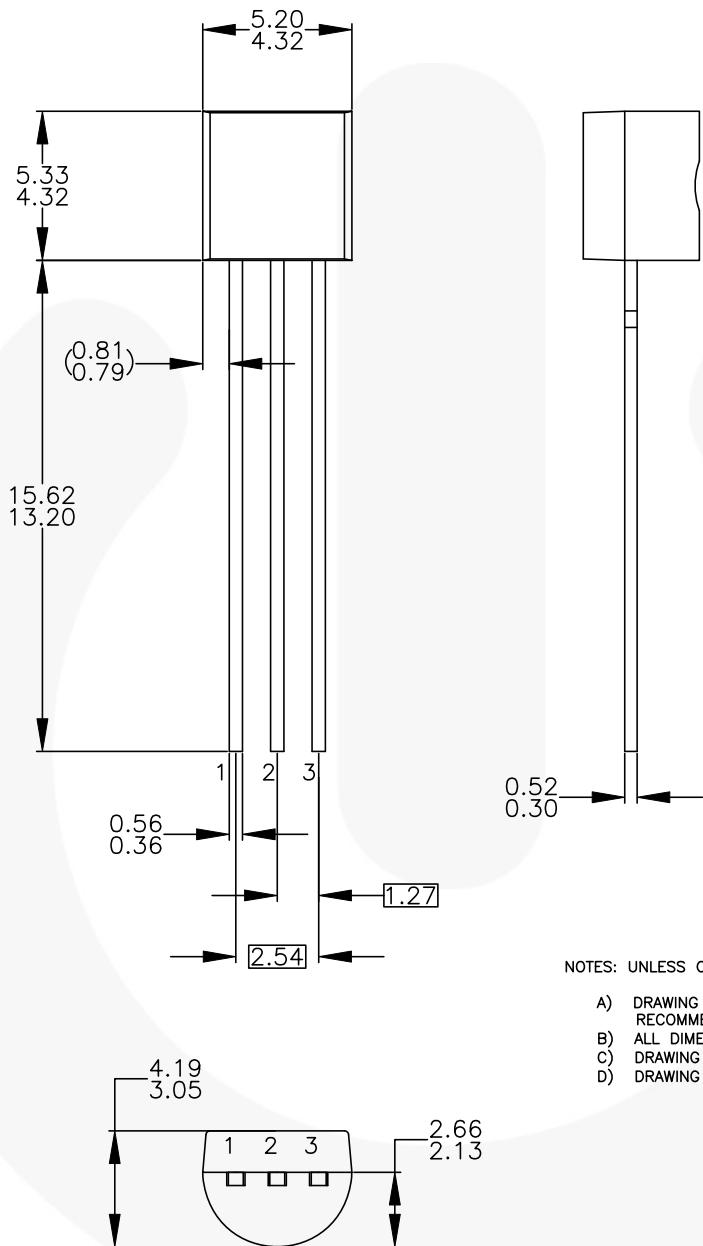
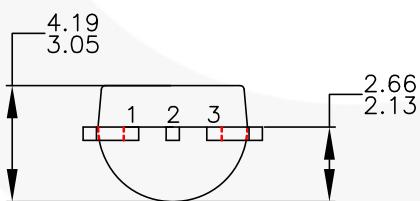
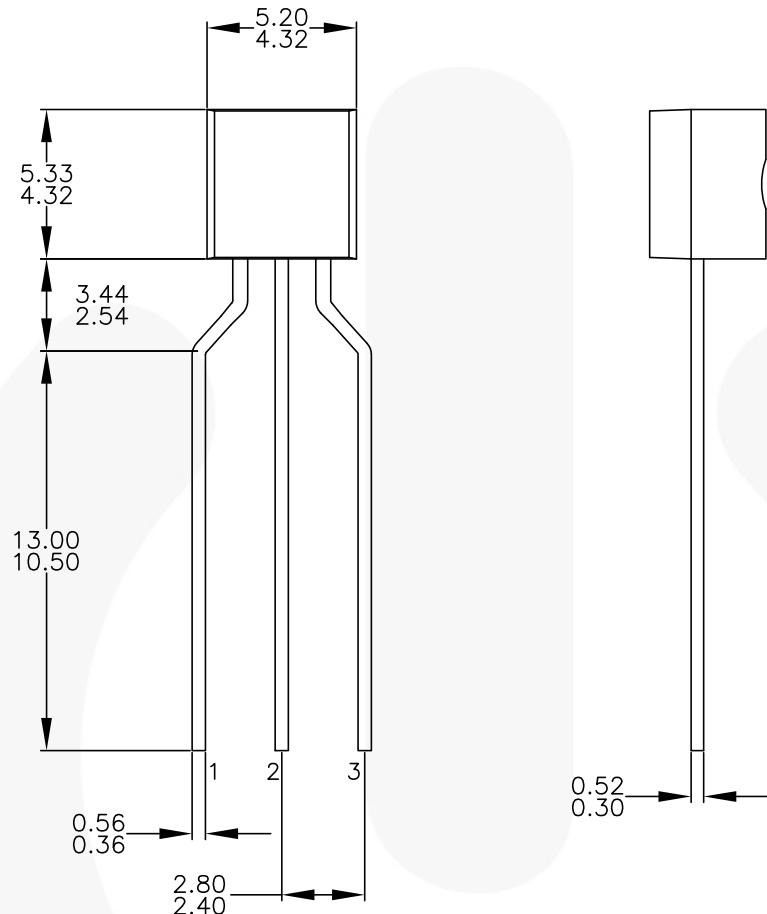


Figure 5. 3-Lead, TO-92, JEDEC TO-92 Compliant Straight Lead Configuration, Bulk Type

Physical Dimensions (Continued)



NOTES: UNLESS OTHERWISE SPECIFIED

- A. DRAWING CONFORMS TO JEDEC MS-013, VARIATION AC.
- B. ALL DIMENSIONS ARE IN MILLIMETERS.
- C. DRAWING CONFORMS TO ASME Y14.5M-2009.
- D. DRAWING FILENAME: MKT-ZA03REV3.
- E. FAIRCHILD SEMICONDUCTOR.

Figure 6. 3-Lead, TO-92, Molded, 0.2 In Line Spacing Lead Form, Ammo, Tape and Reel Type



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