



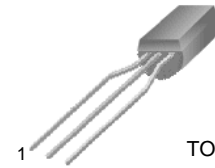
February 2015

# KSA916

## PNP Epitaxial Silicon Transistor

### Features

- Audio Power Amplifier
- Driver Stage Amplifier
- Complement to KSC2316



TO-92L  
1. Emitter 2. Collector 3. Base

### Ordering Information

Part Number	Top Mark	Package	Packing Method
KSA916YTA	A916	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	-120	V
$V_{CEO}$	Collector-Emitter Voltage	-120	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current	-800	mA
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{STG}$	Storage Temperature	-55 to +150	$^\circ\text{C}$

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**Thermal Characteristics<sup>(1)</sup>**

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

Symbol	Parameter	Value	Unit
$P_D$	Power Dissipation, by $R_{\theta JA}$	900	mW
	Power Dissipation, by $R_{\theta JC}$	3	W
	Derate Above $25^\circ\text{C}$ , by $R_{\theta JA}$	7.2	mW/ $^\circ\text{C}$
	Derate Above $25^\circ\text{C}$ , by $R_{\theta JC}$	24	mW/ $^\circ\text{C}$
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	130	$^\circ\text{C}/\text{W}$
$R_{\theta JC}$	Thermal Resistance, Junction-to-Case	41	$^\circ\text{C}/\text{W}$

**Note:**

1. PCB size: FR-4, 76 mm x 114 mm x 1.57 mm (3.0 inch x 4.5 inch x 0.062 inch) with minimum land pattern size.

**Electrical Characteristics**

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
$BV_{CBO}$	Collector-Base Breakdown Voltage	$I_C = -1\text{ mA}, I_E = 0$	-120			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -10\text{ mA}, I_B = 0$	-120			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E = -1\text{ mA}, I_C = 0$	-5			V
$I_{CBO}$	Collector Cut-Off Current	$V_{CB} = -120\text{ V}, I_E = 0$			-0.1	$\mu\text{A}$
$h_{FE1}$	DC Current Gain	$V_{CE} = -5\text{ V}, I_C = -10\text{ mA}$	60			
$h_{FE2}$	DC Current Gain	$V_{CE} = -5\text{ V}, I_C = -100\text{ mA}$	80		240	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -500\text{ mA}, I_B = -50\text{ mA}$			-1	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = -5\text{ V}, I_C = -100\text{ mA}$		120		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = -10\text{ V}, I_E = 0,$ $f = 1\text{ MHz}$			40	pF

 **$h_{FE}$  Classification**

Classification	O	Y
$h_{FE2}$	80 ~ 160	120 ~ 240

## Typical Performance Characteristics

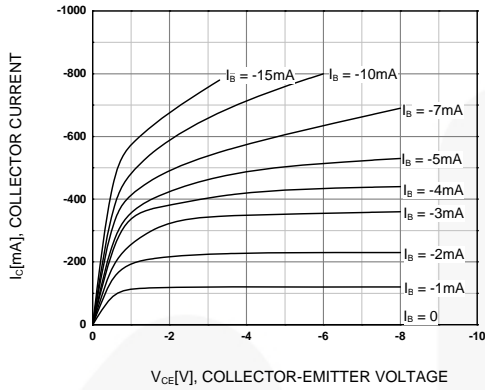


Figure 1. Static Characteristic

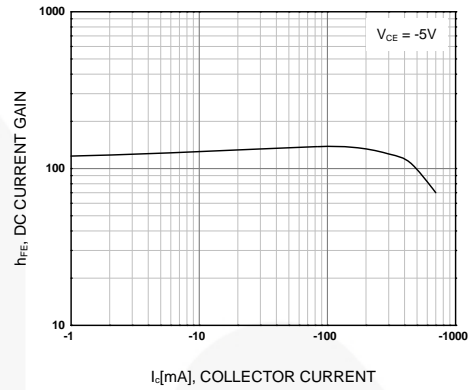


Figure 2. DC Current Gain

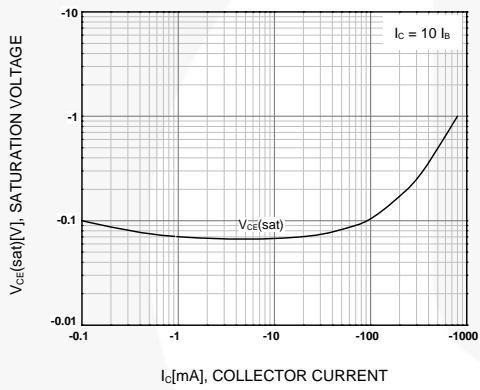


Figure 3. Collector-Emitter Saturation Voltage

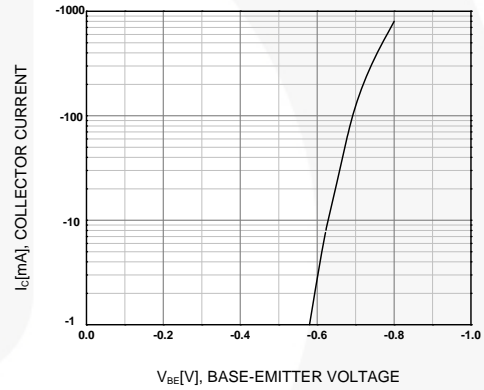


Figure 4. Base-Emitter On Voltage

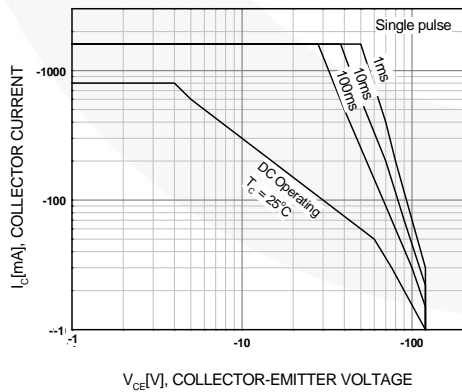


Figure 5. Safe Operating Area

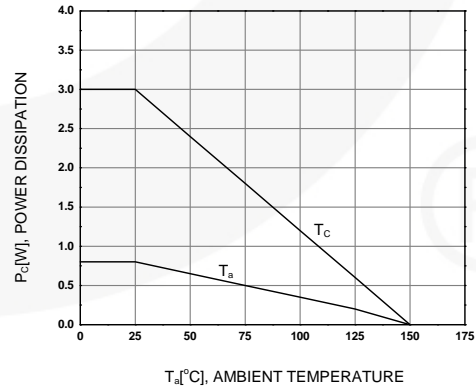
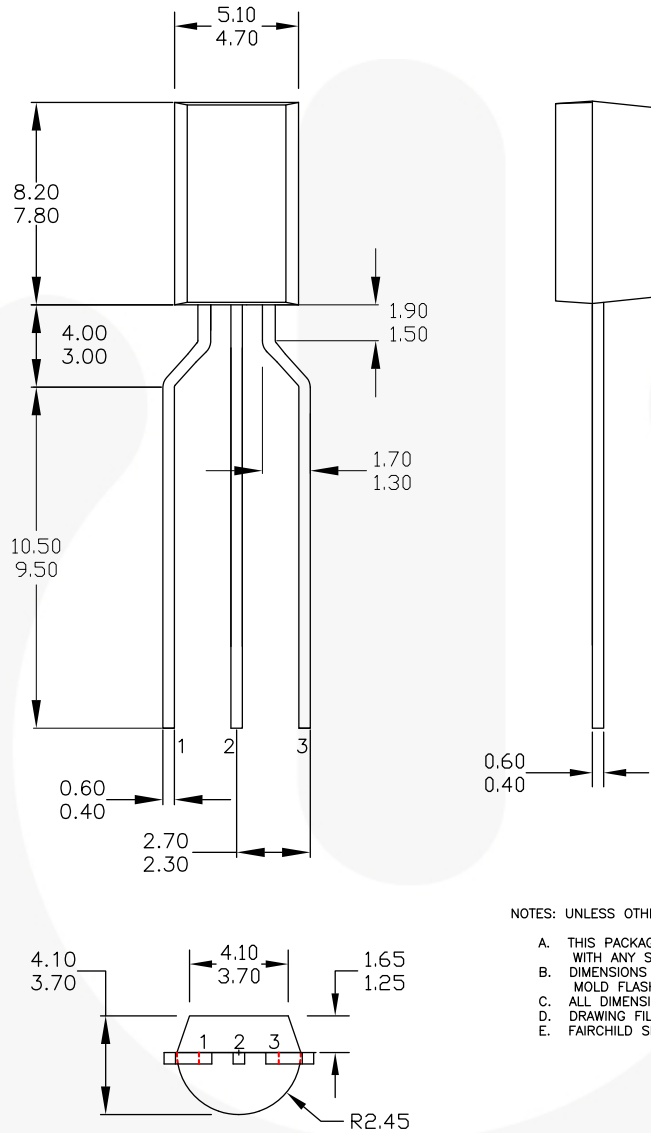


Figure 6. Power Derating

**Physical Dimensions**



NOTES: UNLESS OTHERWISE SPECIFIED


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**Figure 7. 3-LEAD, TO-92L, NON-JEDEC 8 MM TALL BODY LEAD FORM TA TYPE**





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