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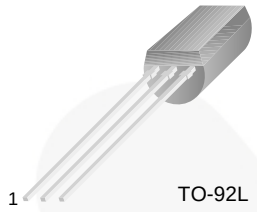
October 2014

KSA928A
PNP Epitaxial Silicon Transistor

Features

- Audio Power Amplifier
- Complement to KSC2328A
- 3 W Output Application



TO-92L

1. Emitter 2. Collector 3. Base

Ordering Information

Part Number	Top Mark	Package	Packing Method
KSA928AOTA	A928A O-	TO-92 3L	Ammo
KSA928AYTA	A928A Y-	TO-92 3L	Ammo

Absolute Maximum Ratings(1), (2)

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°C unless otherwise noted.

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-2	A
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 to +150	°C

Notes:

1. These ratings are based on a maximum junction temperature of 150°C.
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

Thermal Characteristics[3]

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	1000	mW
	Derate Above 25°C	8.0	mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient	125	°C/W

Note:

3. 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°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = -100 μA, I_E = 0	-30			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = -10 mA, I_B = 0	-30			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = -1 mA, I_C = 0	-5			V
I_{CBO}	Collector Cut-Off Current	V_{CB} = -30 V, I_E = 0			-100	nA
I_{EBO}	Emitter Cut-Off Current	V_{EB} = -5 V, I_C = 0			-100	nA
h_{FE}	DC Current Gain	V_{CE} = -2 V, I_C = -500 mA	100		320	
V_{BE}(on)	Base-Emitter On Voltage	V_{CE} = -2 V, I_C = -500 mA			-1.0	V
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = -1.5 A, I_B = -30 mA			-2.0	V
C_{ob}	Output Capacitance	V_{CB} = -10 V, I_E = 0, f = 1 MHz		48		pF
f_T	Current Gain Bandwidth Product	V_{CE} = -2 V, I_C = -500 mA		120		MHz

h_{FE} Classification

Classification	O	Y
h_{FE}	100 ~ 200	160 ~ 320

Typical Performance Characteristics

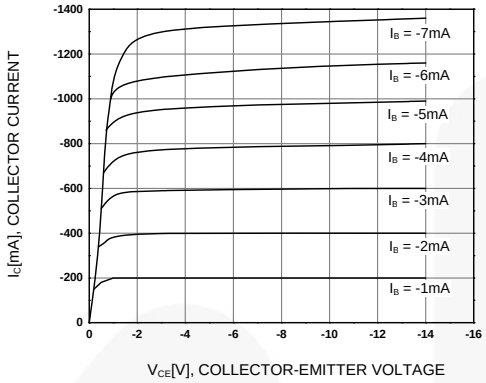


Figure 1. Static Characteristic

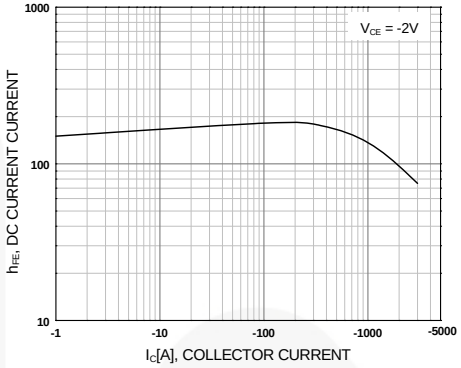


Figure 2. DC Current Gain

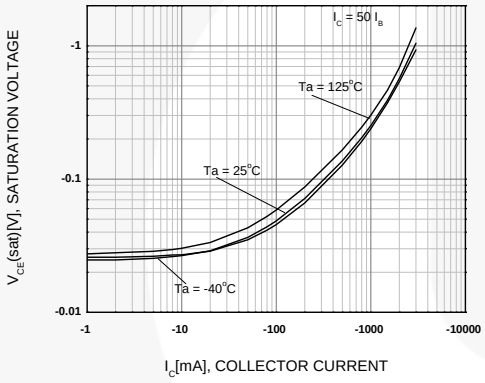


Figure 3. Collector-Emitter Saturation Voltage

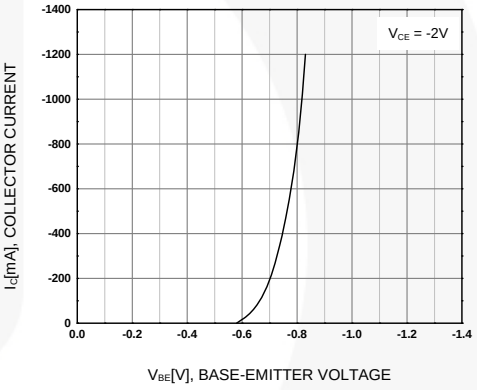


Figure 4. Base-Emitter On Voltage

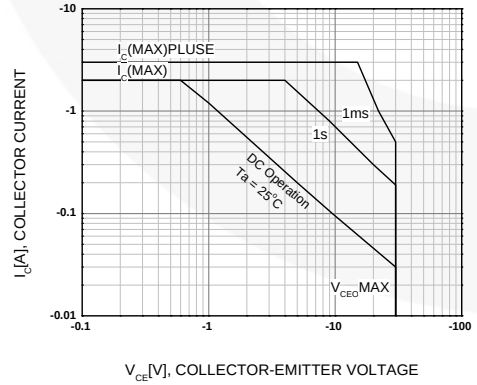


Figure 5. Safe Operating Area

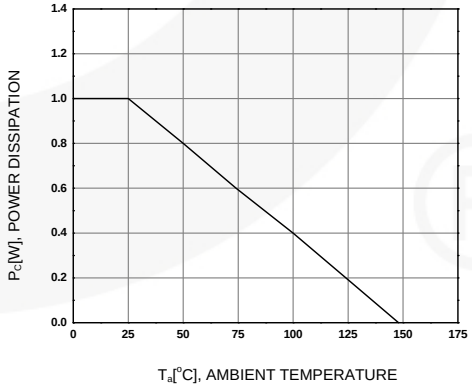
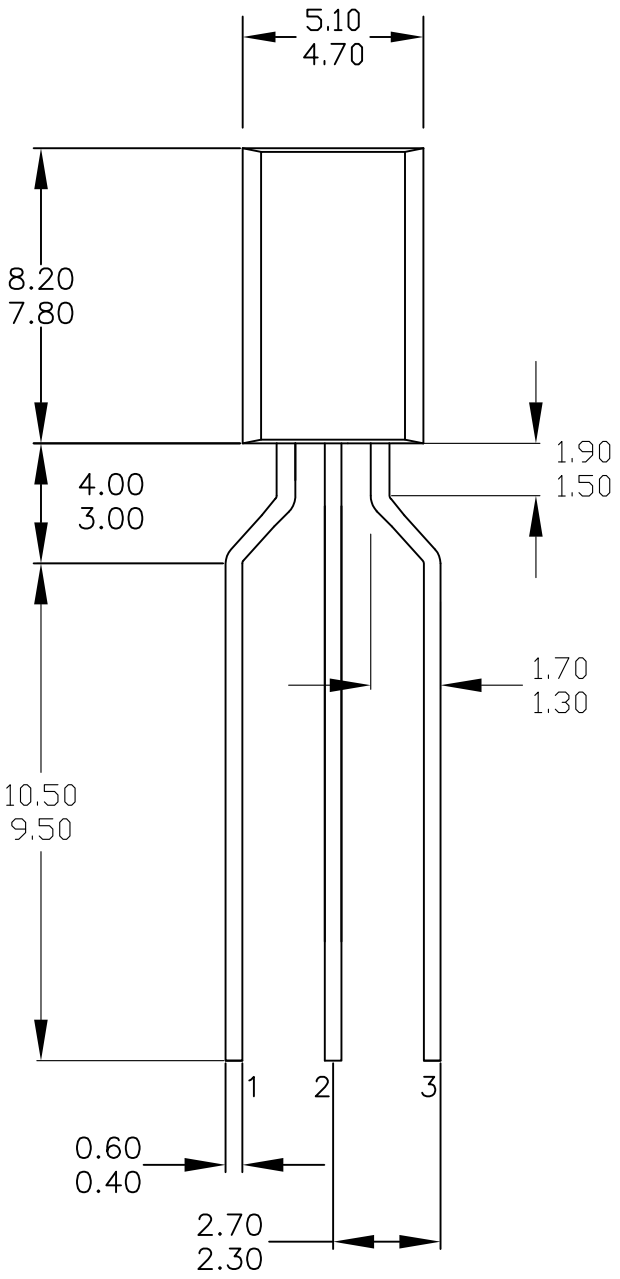
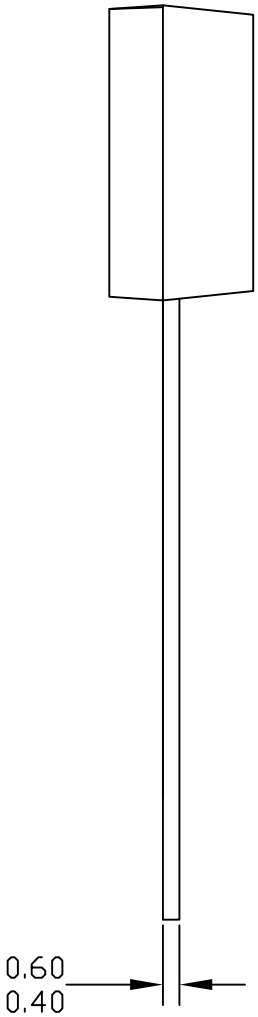
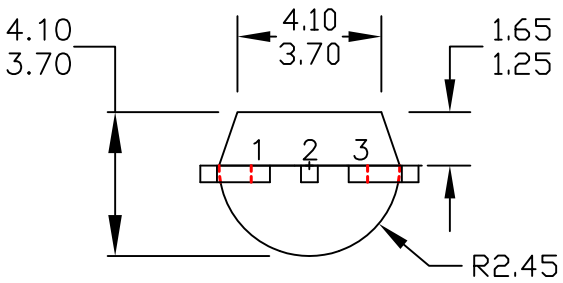


Figure 6. Power Derating







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