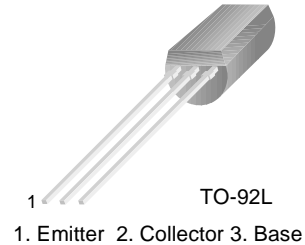


KSA928A

KSA928A

Audio Power Amplifier

- Complement to KSC2328A
- Collector Power Dissipation : $P_C=1W$
- 3 Watt Output Application



PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Ratings	Units
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
P_C	Collector Power Dissipation	1	W
T_J	Junction Temperature	150	$^{\circ}C$
T_{STG}	Storage Temperature	-55 ~ 150	$^{\circ}C$

Electrical Characteristics $T_a=25^{\circ}C$ unless otherwise noted

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

h_{FE} Classification

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

Typical Characteristics

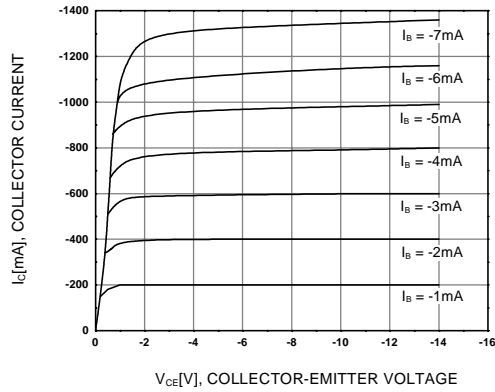


Figure 1. Static Characteristic

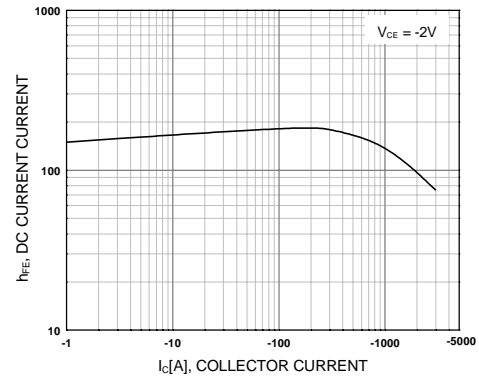


Figure 2. DC current Gain

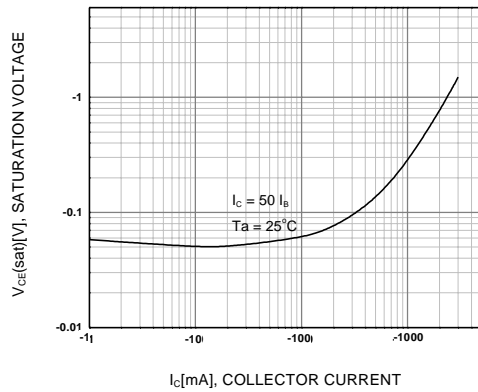


Figure 3. Collector-Emitter Saturation Voltage

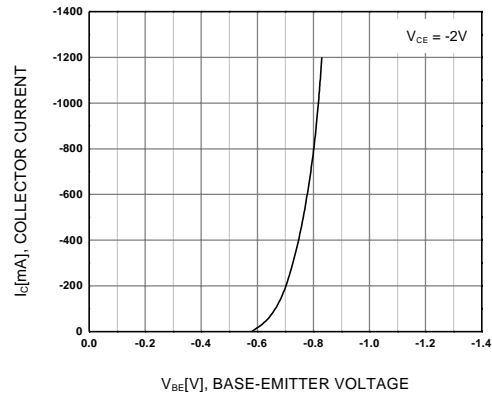


Figure 4. Base-Emitter On Voltage

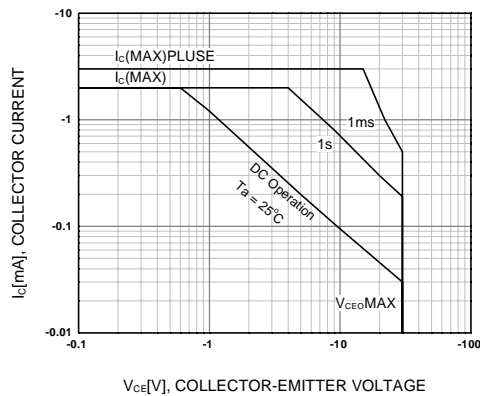


Figure 5. Safe Operating Area

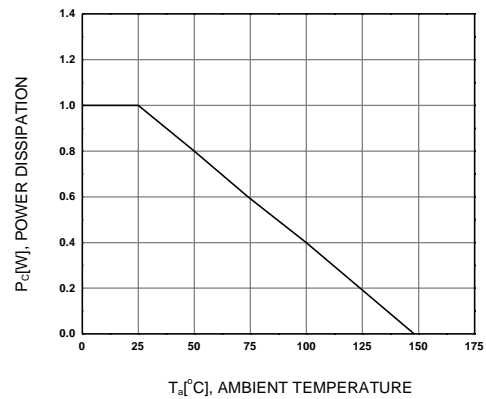
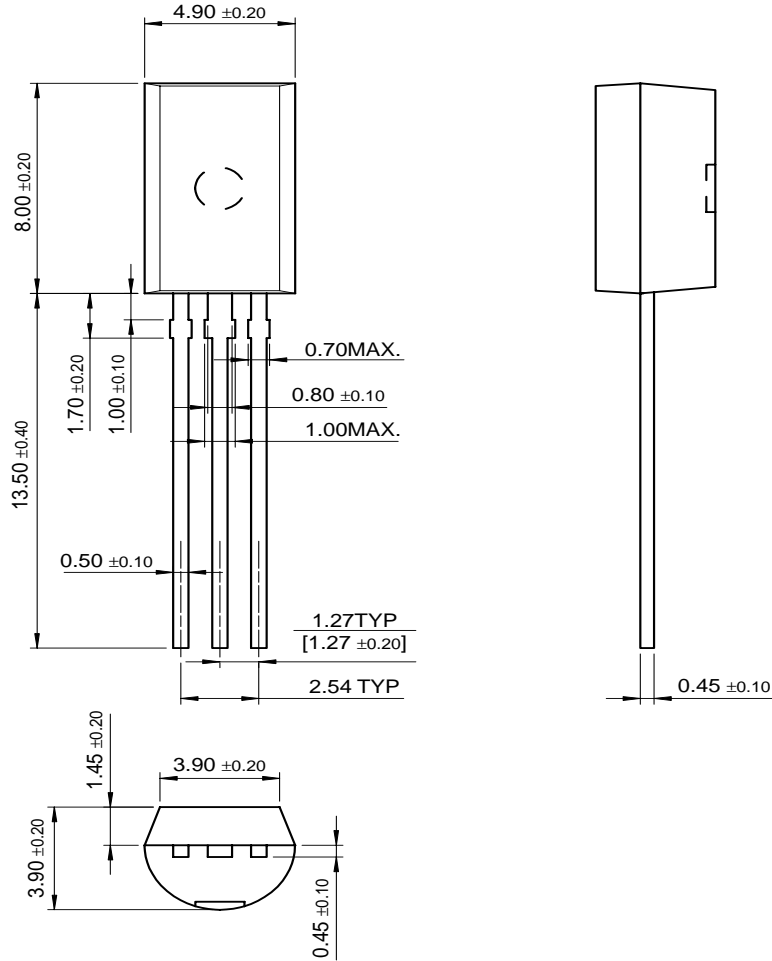


Figure 6. Power Derating

Package Dimensions

TO-92L



Dimensions in Millimeters

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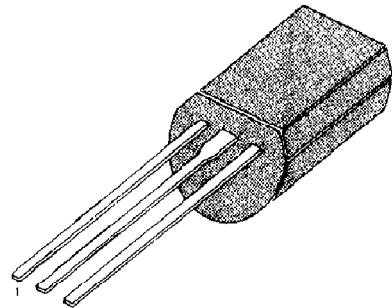
AUDIO POWER AMPLIFIER

- Complement to KSC2328A
- Collector Dissipation $P_C=1W$
- 3 Watt Output Application

ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ C$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	-30	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-2	A
Collector Dissipation	P_C	1	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{STG}	-55 ~ +150	$^\circ C$

TO-92L



1. Emitter 2. Collector 3. Base

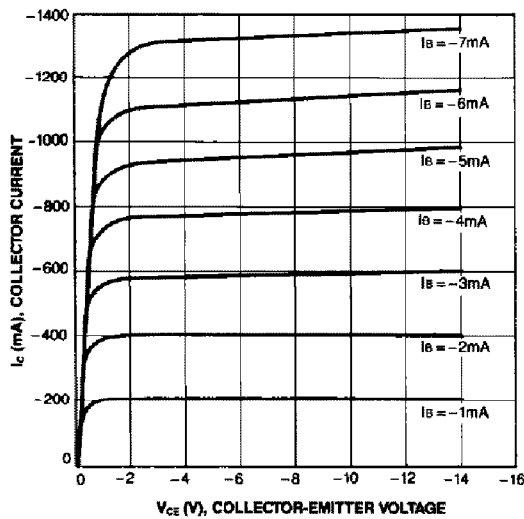
ELECTRICAL CHARACTERISTICS ($T_A=25^\circ C$)

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

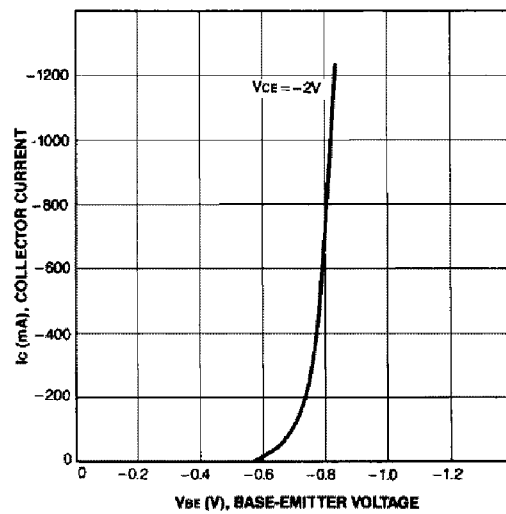
h_{FE} CLASSIFICATION

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

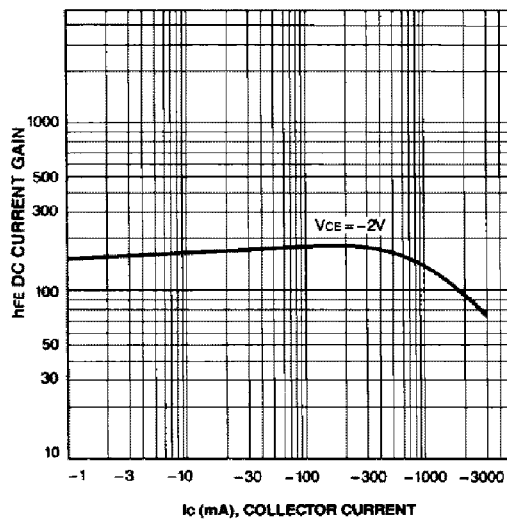
STATIC CHARACTERISTIC



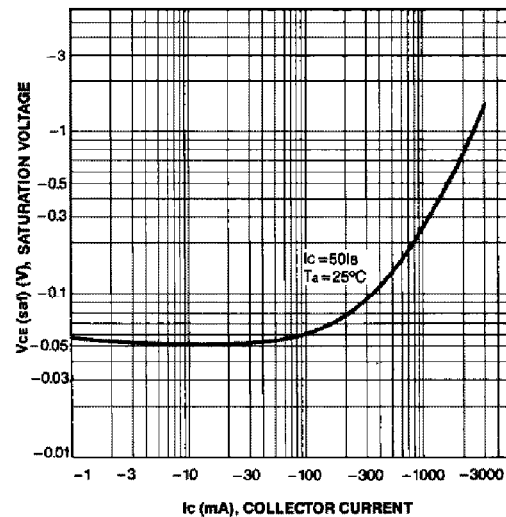
BASE-EMITTER ON VOLTAGE



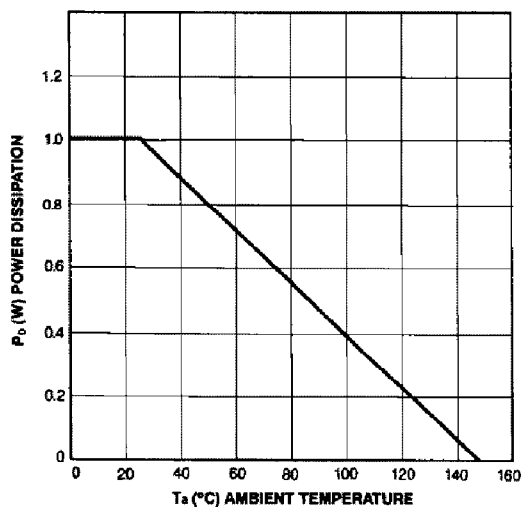
DC CURRENT GAIN



COLLECTOR-EMITTER SATURATION VOLTAGE



POWER DERATING



SAFE OPERATING AREA

