

KSC2328A

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Audio Power Amplifier Applications

- Complement to KSA928A
- Collector Power Dissipation : $P_C=1W$
- 3 Watt Output Application



NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_a=25^\circ\text{C}$ 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	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_E=0$	30			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}, I_B=0$	30			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=1\text{mA}, I_C=0$	5			V
I_{CBO}	Collector Cut-off Current	$V_{CB}=30\text{V}, I_E=0$			100	nA
I_{EBO}	Emitter Cut-off Current	$V_{EB}=5\text{V}, I_C=0$			100	nA
h_{FE}	DC Current Gain	$V_{CE}=2\text{V}, I_C=500\text{mA}$	100		320	
$V_{BE}(\text{on})$	Base-Emitter On Voltage	$V_{CE}=2\text{V}, I_C=500\text{mA}$			1.0	V
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=1.5\text{A}, I_B=0.03\text{A}$			2.0	V
f_T	Current Gain Bandwidth Product	$V_{CE}=2\text{V}, I_C=500\text{mA}$		120		MHz
C_{ob}	Collector Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		30		pF

h_{FE} Classification

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

Typical Characteristics

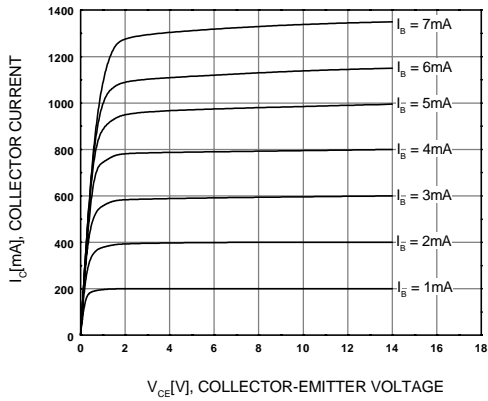


Figure 1. Static Characteristic

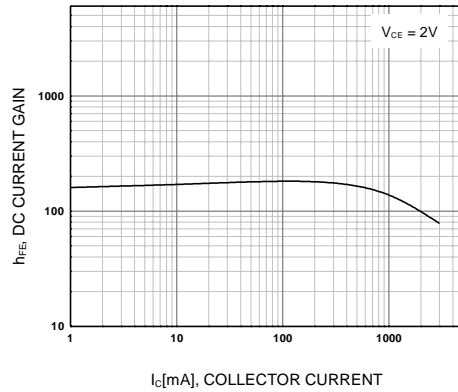


Figure 2. DC current Gain

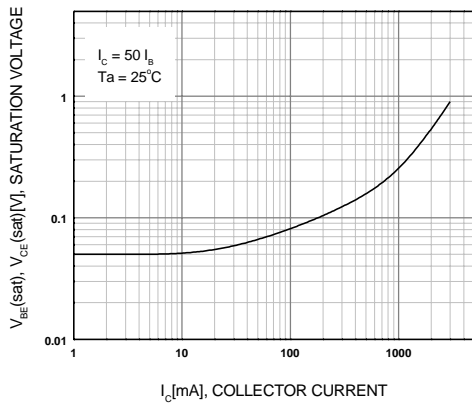


Figure 3. Collector-Emitter Saturation Voltage

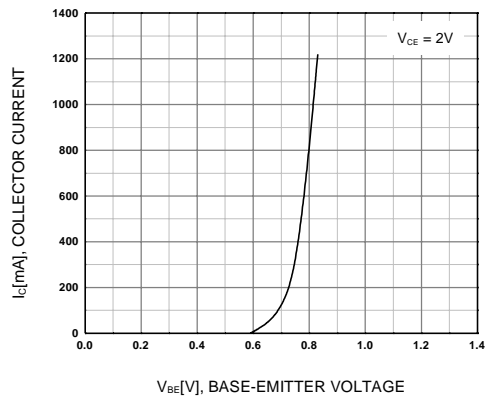


Figure 4. Base-Emitter On Voltage

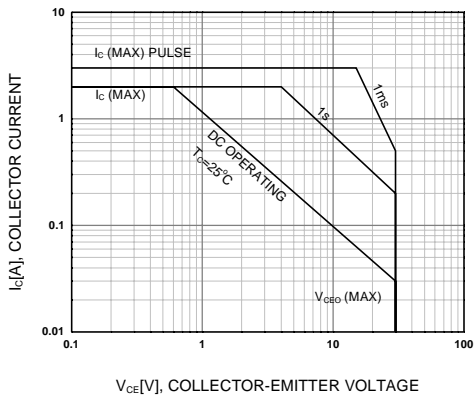


Figure 5. Safe Operating Area

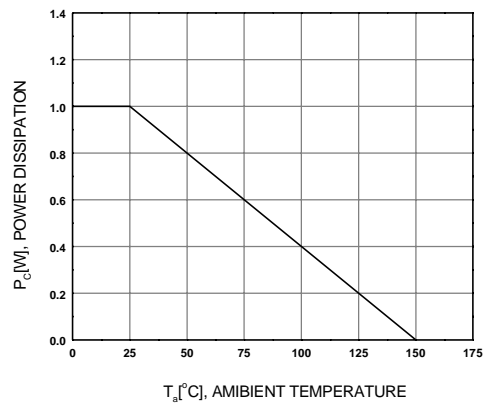
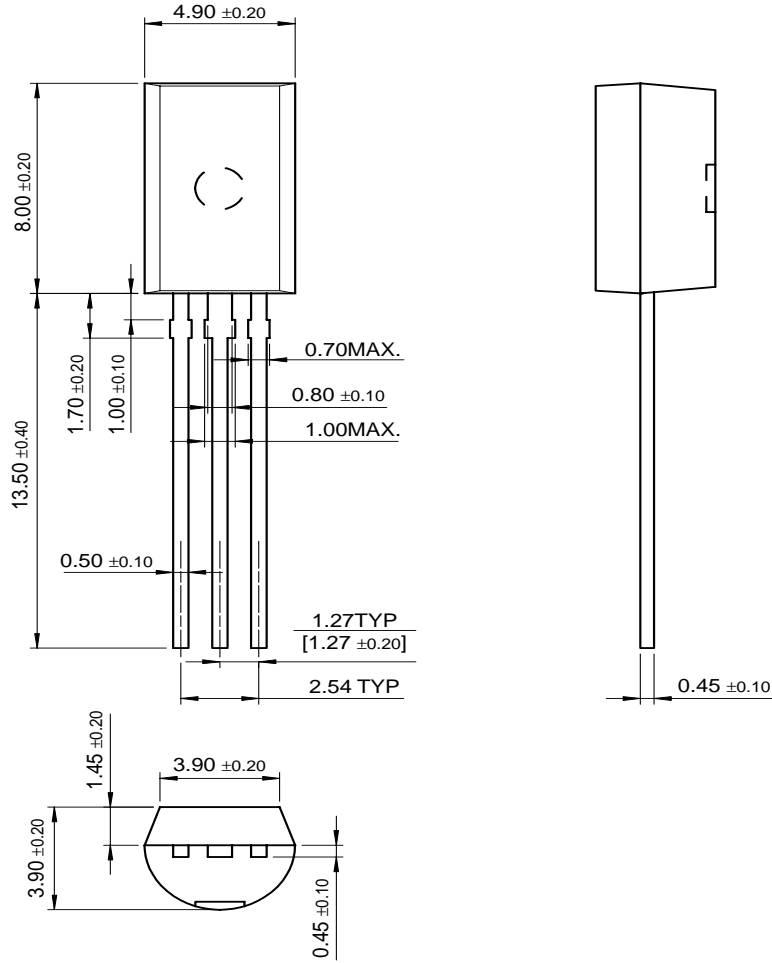


Figure 6. Power Derating

Package Dimensions

KSC2328A

TO-92L



Dimensions in Millimeters

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