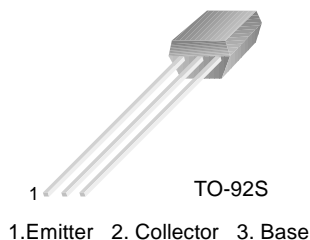


# KSD1021

KSD1021

## Audio Frequency Power Amplifier

- Complement to KSB811
- Collector Current :  $I_C=1A$
- Collector Dissipation :  $P_C=350mW$



## NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Ratings	Units
$V_{CBO}$	Collector-Base Voltage	40	V
$V_{CEO}$	Collector-Emitter Voltage	30	V
$V_{EBO}$	Emitter-Base Voltage	5	V
$I_C$	Collector Current	1	A
$P_C$	Collector Power Dissipation	350	mW
$T_J$	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	$I_C=100\mu A, I_E=0$	40			V
$BV_{CEO}$	Collector-Emitter Breakdown Voltage	$I_C=10mA, I_B=0$	30			V
$BV_{EBO}$	Emitter-Base Breakdown Voltage	$I_E=100\mu A, I_C=0$	5			V
$I_{CBO}$	Collector Cut-off Current	$V_{CB}=30V, I_E=0$			0.1	$\mu A$
$h_{FE}$	DC Current Gain	$V_{CE}=1V, I_C=100mA$	120		400	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=1A, I_B=0.1A$			0.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1A, I_B=0.1A$			1.2	V
$f_T$	Current Gain Band Width Product	$V_{CE}=6V, I_C=10mA$		130		MHz
$C_{ob}$	Output Capacitance	$V_{CB}=6V, I_E=0, f=1MHz$		16		pF

### $h_{FE}$ Classification

Classification	Y	G
$h_{FE}$	120 ~ 240	200 ~ 400

# Typical Characteristics

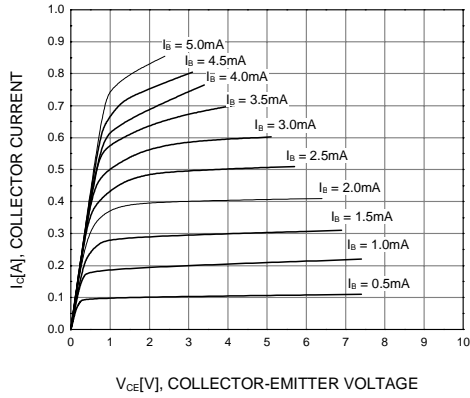


Figure 1. Static Characteristic

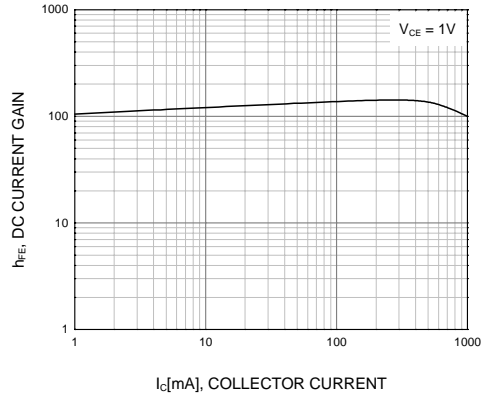


Figure 2. DC current Gain

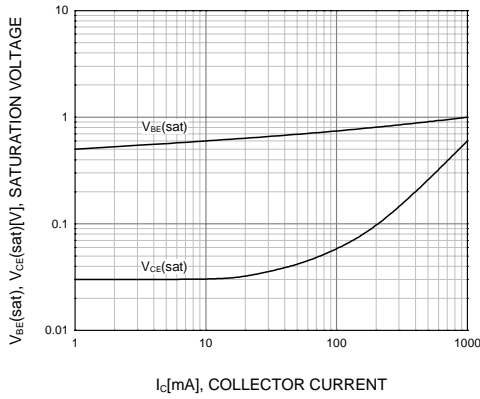


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

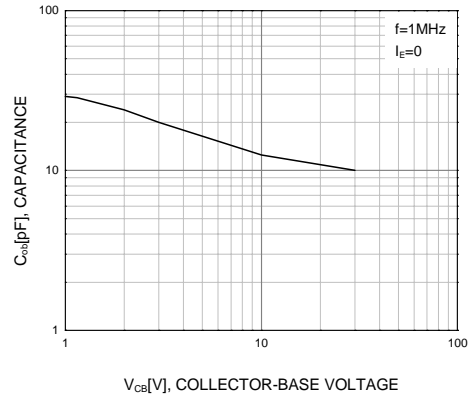


Figure 4. Collector Output Capacitance

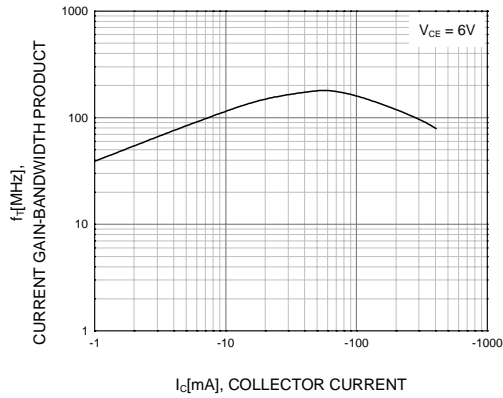


Figure 5. Current Gain Bandwidth Product

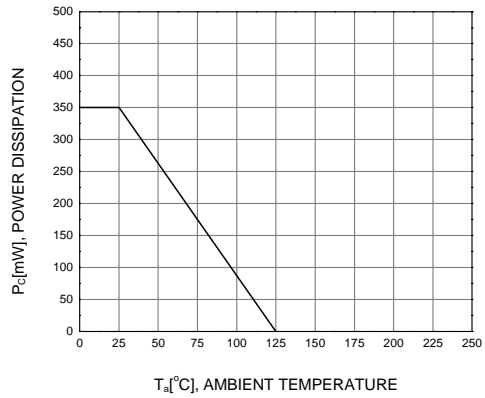
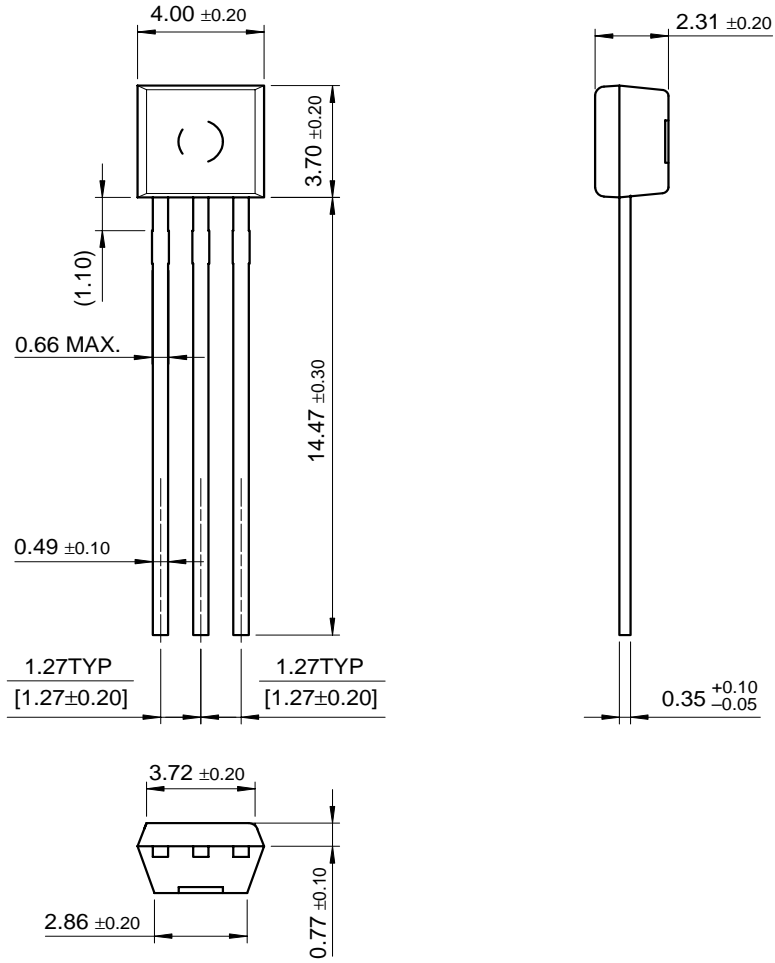


Figure 6. Power Derating

# Package Dimensions

## TO-92S



Dimensions in Millimeters

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Bottomless <sup>™</sup>	FASTr <sup>™</sup>	LittleFET <sup>™</sup>	Power247 <sup>™</sup>	SuperFET <sup>™</sup>
CoolFET <sup>™</sup>	FPST <sup>™</sup>	MICROCOUPLER <sup>™</sup>	PowerSaver <sup>™</sup>	SuperSOT <sup>™</sup> -3
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