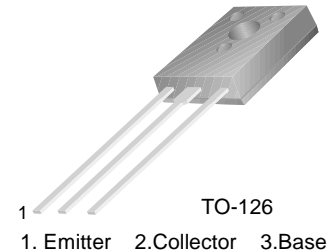


## KSD794/794A

### Audio Frequency Power Amplifier

- Complement to KSB744/KSB744A



### NPN Epitaxial Silicon Transistor

#### Absolute Maximum Ratings $T_C=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units	
$V_{CB0}$	Collector- Base Voltage	70	V	
$V_{CE0}$	Collector-Emitter Voltage	: KSD794	45	V
		: KSD794A	60	V
$V_{EBO}$	Emitter- Base Voltage	5	V	
$I_C$	Collector Current (DC)	3	A	
$I_{CP}$	*Collector Current (Pulse)	5	A	
$I_B$	Base Current (DC)	0.6	A	
$P_C$	Collector Dissipation ( $T_a=25^\circ\text{C}$ )	1	W	
$P_C$	Collector Dissipation ( $T_C=25^\circ\text{C}$ )	10	W	
$T_J$	Junction Temperature	150	$^\circ\text{C}$	
$T_{STG}$	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$	

\*  $PW \leq 10\text{ms}$ , Duty Cycle  $\leq 50\%$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
$I_{CBO}$	Collector Cut-off Current	$V_{CB} = 45\text{V}$ , $I_E = 0$			1	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 3\text{V}$ , $I_C = 0$			1	$\mu\text{A}$
$h_{FE1}$ $h_{FE2}$	* DC Current Gain	$V_{CE} = 5\text{V}$ , $I_C = 20\text{mA}$ $V_{CE} = 5\text{V}$ , $I_C = 0.5\text{A}$	30 60	70 100	320	
$V_{CE(\text{Sat})}$	* Collector-Emitter Saturation Voltage	$I_C = 1.5\text{A}$ , $I_B = 0.15\text{A}$		0.3	2	V
$V_{BE(\text{Sat})}$	* Base-Emitter Saturation Voltage	$I_C = 1.5\text{A}$ , $I_B = 0.15\text{A}$		0.8	2	V
$f_T$	Current Gain Bandwidth Product	$V_{CE} = 5\text{V}$ , $I_E = 0.1\text{A}$		60		MHz
$C_{ob}$	Output Capacitance	$V_{CB} = 10\text{V}$ , $I_E = 0$ , $f = 1\text{MHz}$		40		pF

\* Pulse Test:  $PW \leq 350\mu\text{s}$ , Duty Cycles  $\leq 2\%$  Pulsed

#### $h_{FE}$ Classification

Classification	R	O	Y
$h_{FE2}$	60 ~ 120	100 ~ 200	160 ~ 320

# Typical Characteristics

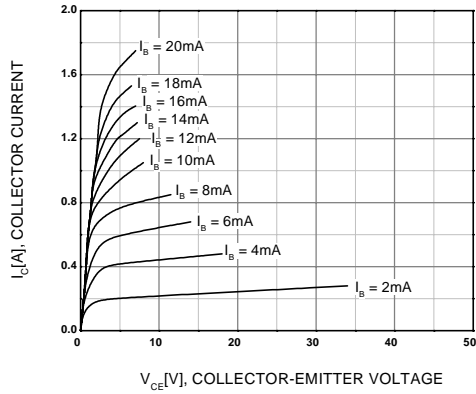


Figure 1. Static Characteristic

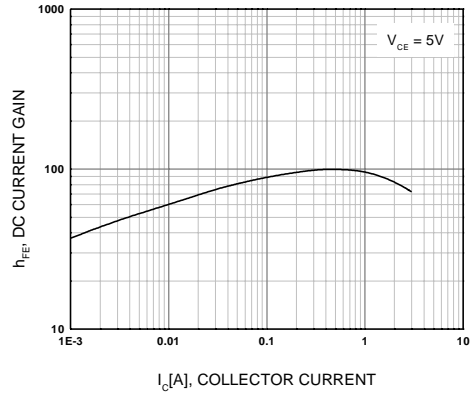


Figure 2. DC current Gain

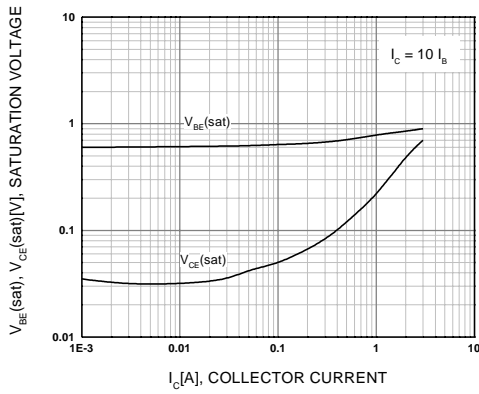


Figure 3. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

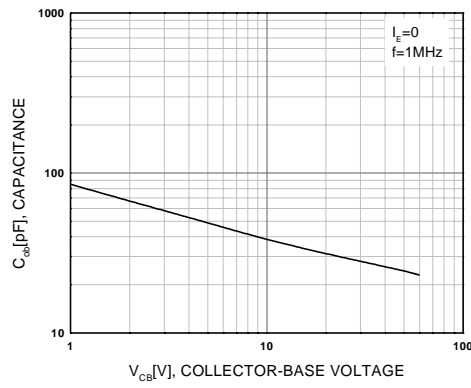


Figure 4. Collector Output Capacitance

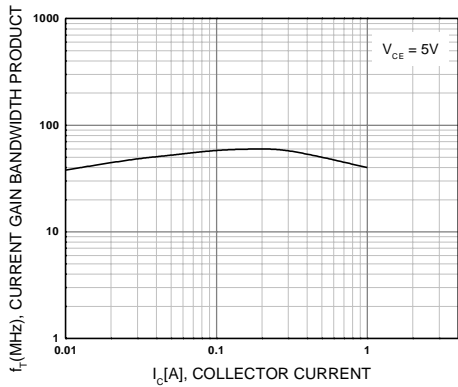


Figure 5. Current Gain Bandwidth Product

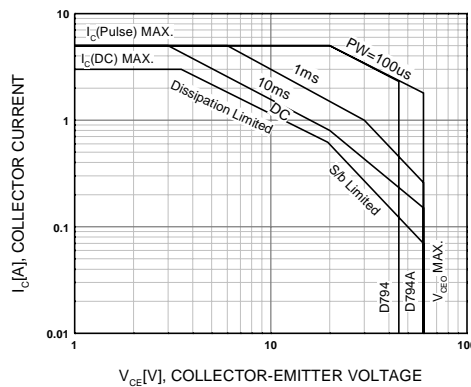


Figure 6. Safe Operating Area

# Typical Characteristics (Continued)

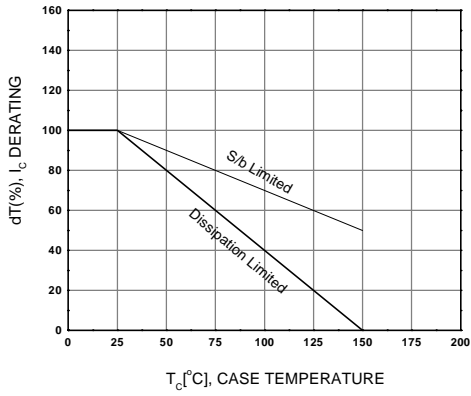


Figure 7. Derating Curve Of Safe Operating Areas

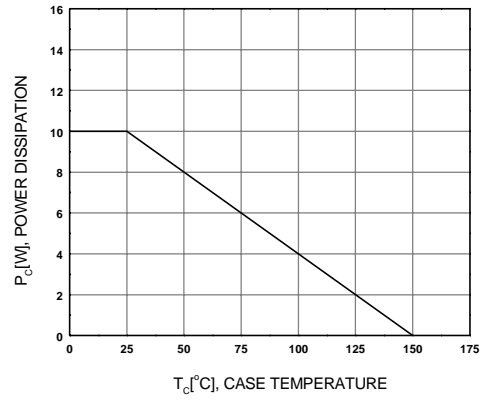


Figure 8. Power Derating

# Package Dimensions

KSD794I794A

## TO-126



Dimensions in Millimeters

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