

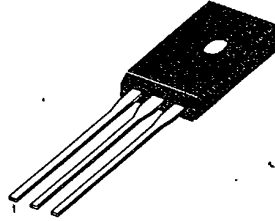
KSD794/794A**NPN EPITAXIAL SILICON TRANSISTOR****AUDIO FREQUENCY POWER AMPLIFIER**

• Complement to KSB744/KSB744A

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	70	V
Collector-Emitter Voltage : KSD794	V_{CE0}	45	V
: KSD794A		60	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current (DC)	I_C	3	A
• Collector Current (Pulse)	I_C	5	A
Base Current (DC)	I_B	0.6	A
Collector Dissipation ($T_a=25^\circ\text{C}$)	P_C	1	W
Collector Dissipation ($T_c=25^\circ\text{C}$)	P_C	10	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-18



1. Emitter 2. Collector 3. Base

3

• $PW \leq 10\text{ms}$, Duty Cycle $\leq 50\%$ **ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=45\text{V}$, $I_E=0$			1	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=3\text{V}$, $I_C=0$			1	μA
• DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}$, $I_C=20\text{mA}$	30	70		
	h_{FE2}	$V_{CE}=5\text{V}$, $I_C=0.5\text{A}$	60	100	320	
• Collector Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=1.5\text{A}$, $I_B=0.15\text{A}$		0.3	2	V
• Base Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=1.5\text{A}$, $I_B=0.15\text{A}$		0.8	2	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}$, $I_C=0.1\text{A}$		60		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}$, $I_C=0$, $f=1\text{MHz}$		40		pF

• Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$ Pulsed **$h_{FE}(2)$ CLASSIFICATION**

Classification	R	O	Y
$h_{FE}(2)$	60-120	100-200	160-320

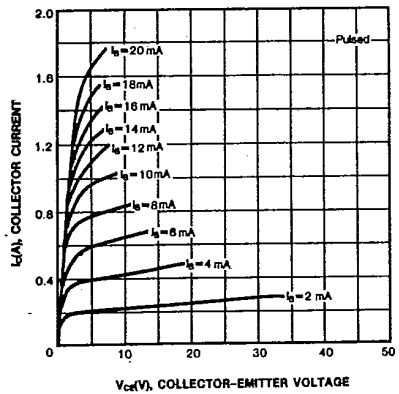


KSD794/794A

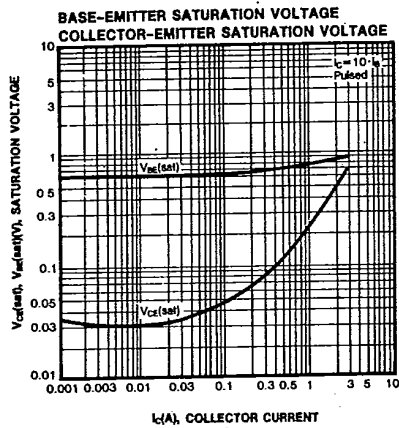
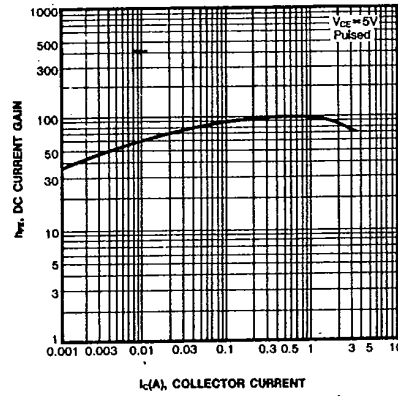
NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

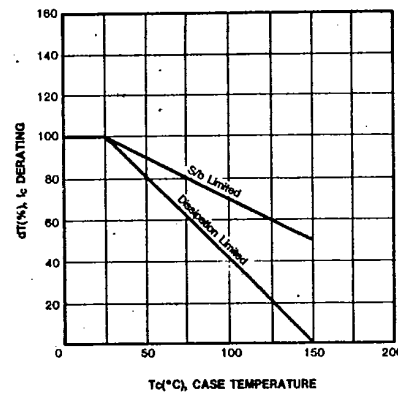
STATIC CHARACTERISTIC



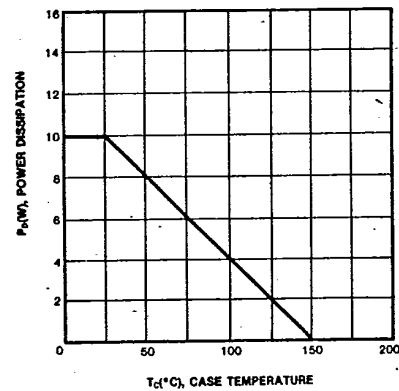
DC CURRENT GAIN



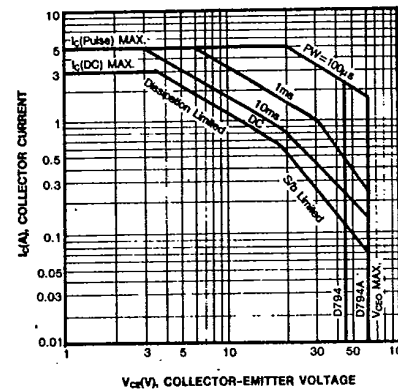
DERATING CURVE OF SAFE OPERATING AREAS



POWER DERATING

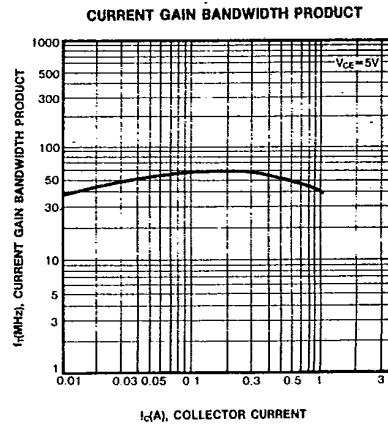
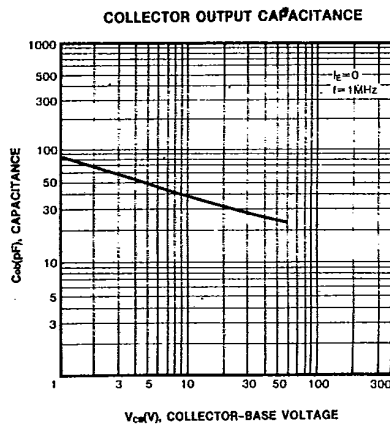


SAFE OPERATING AREA



KSD794/794A**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-07



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KSD880**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-09

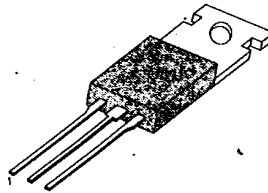
LOW FREQUENCY POWER AMPLIFIER

- Complement to KS8834

ABSOLUTE MAXIMUM RATINGS ($T_a=25^\circ\text{C}$)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	60	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	3	A
Base Current	I_B	0.3	A
Collector Dissipation ($T_c=25^\circ\text{C}$)	P_C	30	W
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55\sim 150$	$^\circ\text{C}$

TO-220



1. Base 2. Collector 3. Emitter

ELECTRICAL CHARACTERISTICS ($T_c=25^\circ\text{C}$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CB0}	$V_{CB}=60\text{V}, I_E=0$			100	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB}=7\text{V}, I_C=0$			100	μA
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=50\text{mA}, I_B=0$	60			V
DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=0.5\text{A}$	60		300	
	h_{FE2}	$V_{CE}=5\text{V}, I_C=3\text{A}$	20			
Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=3\text{A}, I_B=0.3\text{A}$		0.4	1	V
Base Emitter On Voltage	$V_{BE(on)}$	$V_{CE}=5\text{V}, I_C=0.5\text{A}$		0.7	1	V
Current Gain Bandwidth Product	f_T	$V_{CE}=5\text{V}, I_C=0.5\text{A}$		3		MHz
Collector Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$		70		pF
Turn on Time	t_{on}	$I_{B1}=-I_{B2}=0.2\text{A}$		0.8		μs
Storage Time	t_s	$V_{CC}=30\text{V}$		1.5		μs
Fall Time	t_f			0.8		μs

 $h_{FE}(1)$ CLASSIFICATION

Classification	O	Y	G
$h_{FE}(1)$	60-120	100-200	150-300

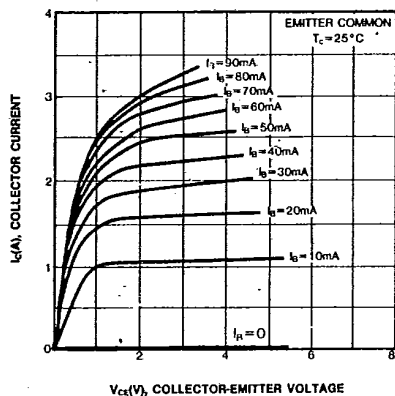


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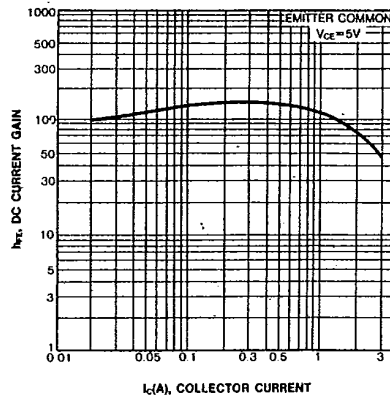
NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

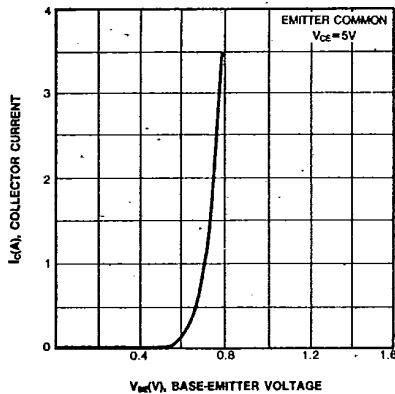
STATIC CHARACTERISTIC



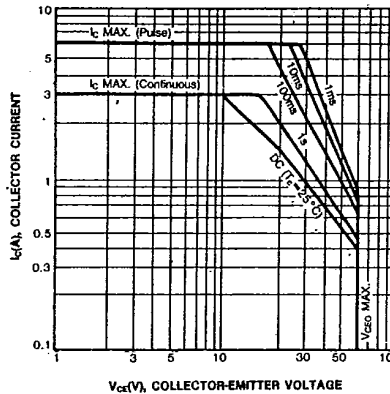
DC CURRENT GAIN



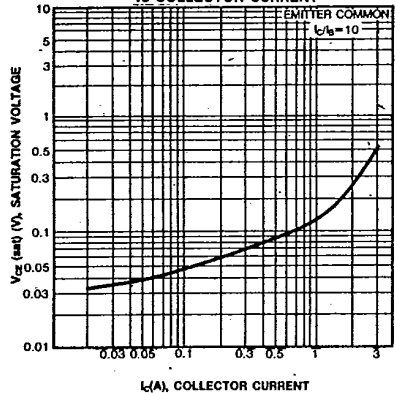
BASE-EMITTER ON VOLTAGE



SAFE OPERATING AREA



COLLECTOR-EMITTER SATURATION VOLTAGE vs COLLECTOR CURRENT



POWER DERATING

