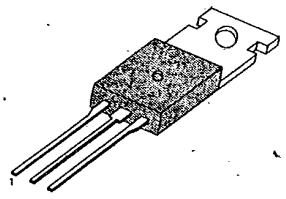
KSB707 PNP EPITAXIAL SILICON TRANSISTOR

LOW FREQUENCY POWER AMPLIFIER
LOW SPEED SWITCHING
INDUSTRIAL USE

- Complement to KSD568

TO-220



1. Base 2. Collector 3. Emitter

3

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	−80	V
Collector-Emitter Voltage	V_{CEO}	−60	V
Emitter-Base Voltage	V_{EBO}	−7.0	V
Collector Current (DC)	I_C	−7.0	A
*Collector Current (Pulse)	I_C	−15	A
Base Current (DC)	I_B	−3.5	A
Collector Dissipation (T_c=25°C)	P_C	40	W
Collector Dissipation (T_a=25°C)	P_C	1.5	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

* PW≤300μs, Duty Cycle ≤10%

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=−60V, I_E=0		−10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=−5V, I_C=0		−10	μA
*DC Current Gain	h_{FE1}	V_{CE}=−1V, I_C=−3A	40	200	
	h_{FE2}	V_{CE}=−1V, I_C=−5A	20		
*Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=−5A, I_B=−0.5A		-0.5	V
*Base-Emitter Saturation Voltage	V_{BE} (sat)	I_C=−5A, I_B=−0.5A		−1.5	V

*Pulse Test: PW≤350μs, Duty Cycle≤2%

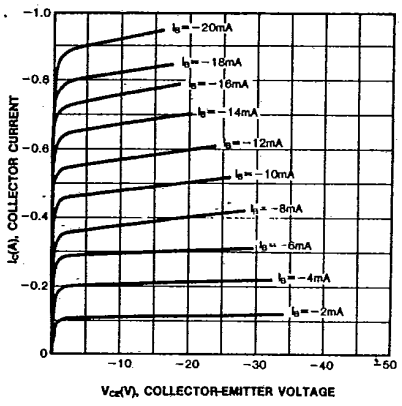
h_{FE} (1) CLASSIFICATION

Classification	R	O	Y
h_{FE} (1)	40-80	60-120	100-200

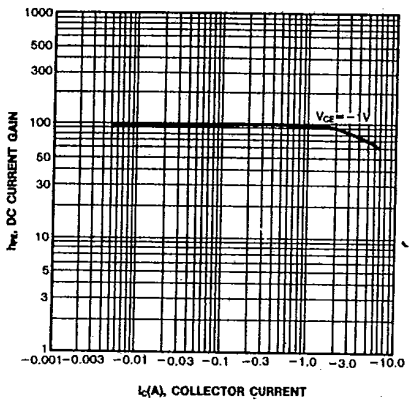
KSB707 PNP EPITAXIAL SILICON TRANSISTOR

T-33-19

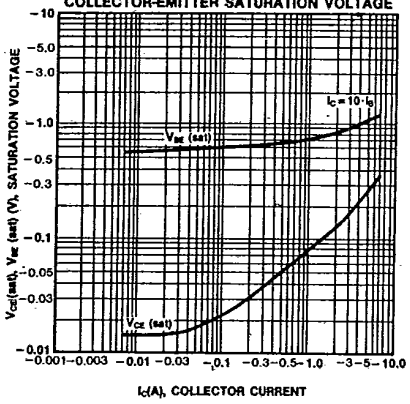
STATIC CHARACTERISTIC



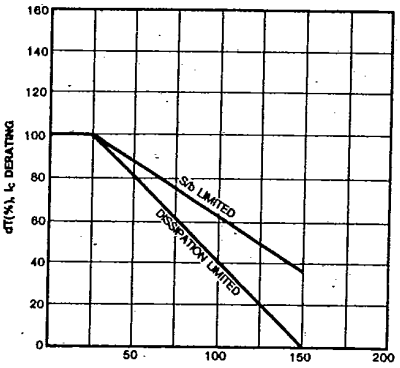
DC CURRENT GAIN



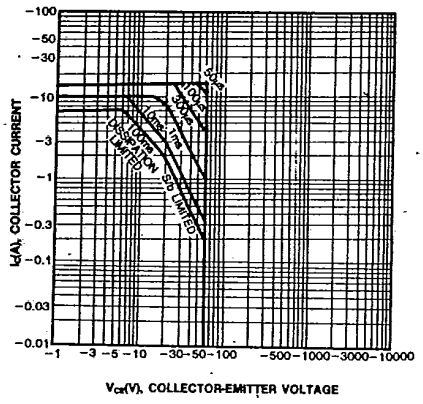
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



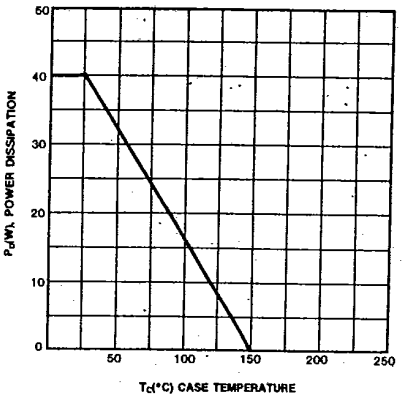
DERATING CURVE OF SAFE OPERATING AREAS



FORWARD BIAS SAFE OPERATING AREA



POWER DERATING



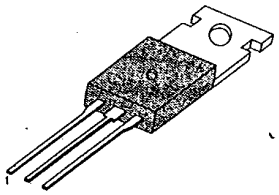
KSB708 PNP EPITAXIAL SILICON TRANSISTOR

T-33-19

LOW FREQUENCY POWER AMPLIFIER
LOW SPEED SWITCHING
INDUSTRIAL USE

- Complement to KSD569

TO-220



1. Base 2. Collector 3. Emitter

3

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	−80	V
Collector-Emitter Voltage	V_{CEO}	−80	V
Emitter-Base Voltage	V_{EBO}	−7.0	V
Collector Current (DC)	I_C	−7.0	A
*Collector Current (Pulse)	I_C	−15	A
Base Current (DC)	I_B	−3.5	A
Collector Dissipation (T_c=25°C)	P_C	40	W
Collector Dissipation (T_a=25°C)	P_C	1.5	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

* PW≤300μs, Duty Cycle ≤10%

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=−60V, I_E=0		−10	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=−5V, I_C=0		−10	μA
*DC Current Gain	h_{FE1}	V_{CE}=−1V, I_C=−3A	40	200	
	h_{FE2}	V_{CE}=−1V, I_C=−5A	20		
*Collector-Emitter Saturation Voltage	V_{CE} (sat)	I_C=−5A, I_B=−0.5A		−0.5	V
*Base-Emitter Saturation Voltage	V_{BE} (sat)	I_C=−5A, I_B=−0.5A		−1.5	V

*Pulse Test: PW≤350μs, Duty Cycle≤2%

h_{FE} (1) CLASSIFICATION

Classification	R	O	Y
h_{FE} (1)	40-80	60-120	100-200

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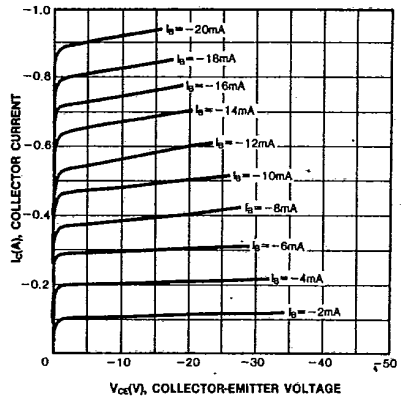
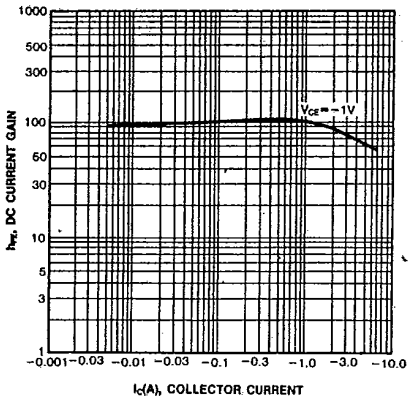
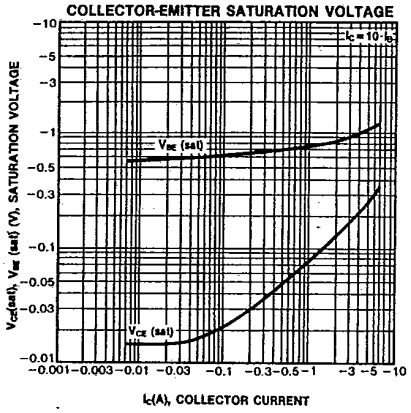
STATIC CHARACTERISTIC



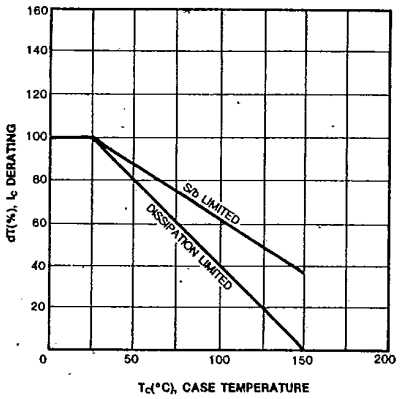
DC CURRENT GAIN



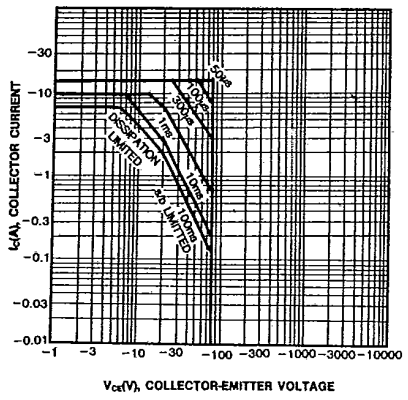
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



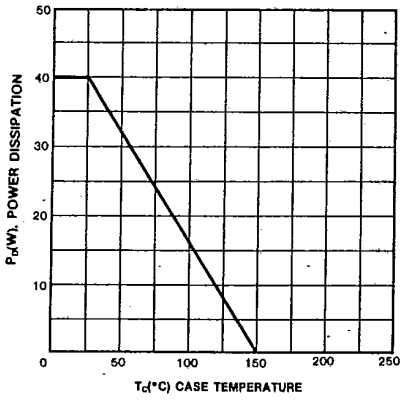
DERATING CURVE OF SAFE OPERATING AREAS



FORWARD BIAS SAFE OPERATING AREA



POWER DERATING



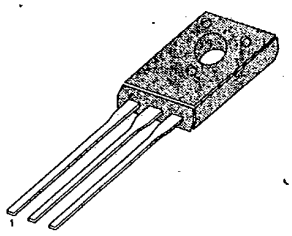
KSB744/744A PNP EXITAXIAL SILICON TRANSISTOR

T-33-17

AUDIO FREQUENCY POWER AMPLIFIER

- **Complement to KSD794/KSD794A**

TO-126



1. Emitter 2. Collector 3. Base

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	−70	V
Collector-Emitter Voltage : KSB744	V_{CEO}	−45	V
: KSB744A		−60	V
Emitter-Base Voltage	V_{EBO}	−5	V
Collector Current (DC)	I_C	−3	A
*Collector Current (Pulse)	I_C	−5	A
Base Current	I_B	−0.6	A
Collector Dissipation (T_a=25°C)	P_C	1	W
Collector Dissipation (T_c=25°C)	P_C	10	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

* PW≤10ms, Duty Cycle ≤50%

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	V_{CB}=−45V, I_E=0			−1	μA
Emitter Cutoff Current	I_{EBO}	V_{EB}=−3V, I_C=0			−1	μA
*DC Current Gain	h_{FE1}	V_{CE}=−5V, I_C=−20mA	30	120		
	h_{FE2}	V_{CE}=−5V, I_C=−0.5A	60	100	320	
*Collector Emitter Saturation Voltage	V_{CE} (sat)	I_C=−1.5A, I_B=−0.15A		−0.5	−2	V
*Base Emitter Saturation Voltage	V_{BE} (sat)	I_C=−1.5A, I_B=−0.15A		−0.8	−2	V
Current Gain Bandwidth Product	f_T	V_{CE}=−5V, I_C=−0.1A		45		MHz
Output Capacitance	Cob	V_{CB}=−10V, I_E=0 f=1MHz		60		pF

* Pulse Test: PW≤350μs, Duty Cycle≤2% Pulsed

h_{FE}(2) CLASSIFICATION

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

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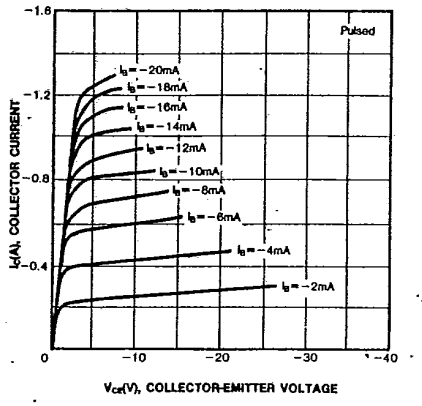
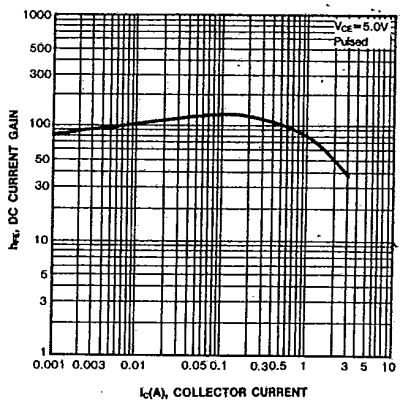
KSB744/744A PNP EXITAXIAL SILICON TRANSISTOR

T-33-17

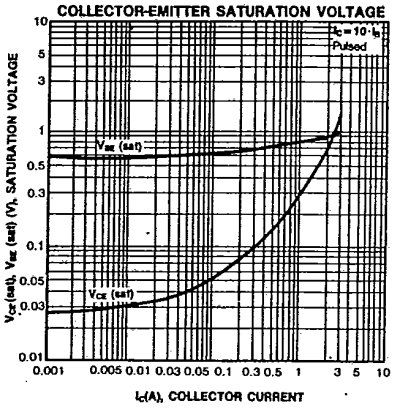
STATIC CHARACTERISTIC



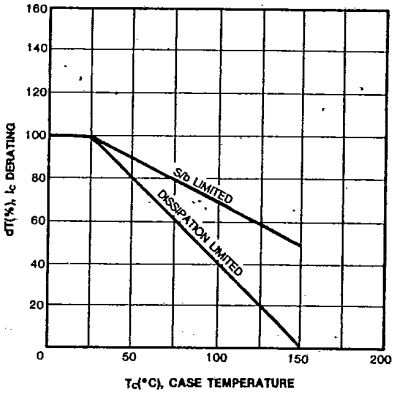
DC CURRENT GAIN



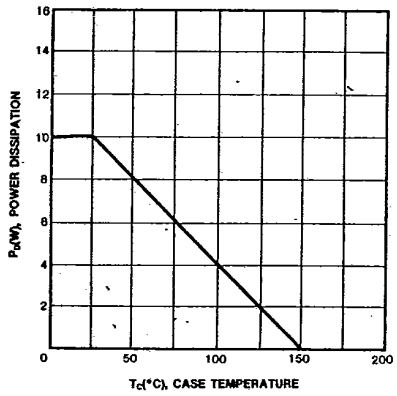
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



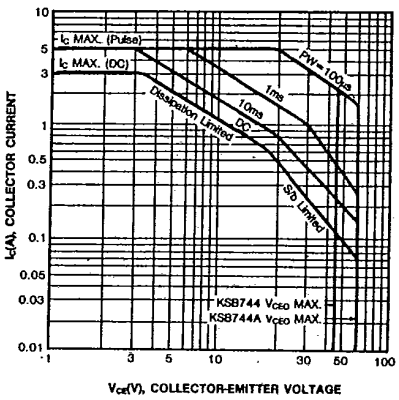
DERATING CURVE OF SAFE OPERATING AREAS



POWER DERATING



SAFE OPERATING AREA



KSB744/744A PNP EXITAXIAL SILICON TRANSISTOR

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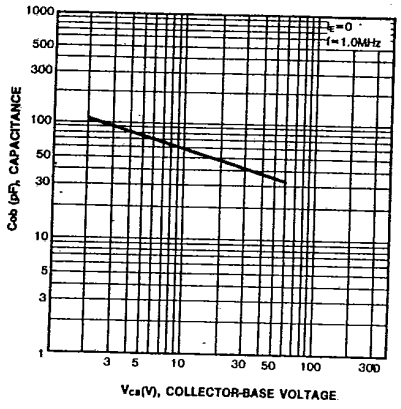
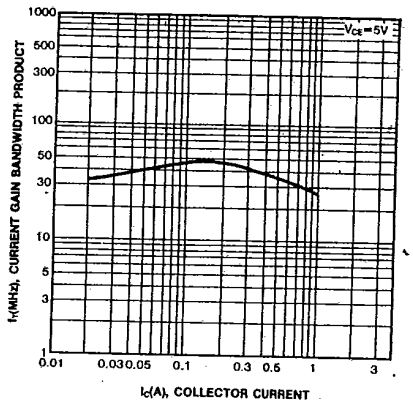
COLLECTOR OUTPUT CAPACITANCE



CURRENT GAIN-BANDWIDTH PRODUCT



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