

KSA1142

PNP EPITAXIAL SILICON TRANSISTOR

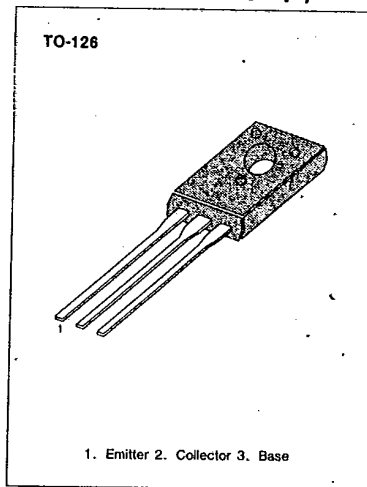
**AUDIO FREQUENCY POWER AMPLIFIER
HIGH FREQUENCY POWER AMPLIFIER**

• Complement to KSC2682

T-33-17

ABSOLUTE MAXIMUM RATINGS (T_a=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V _{CB0}	-180	V
Collector-Emitter Voltage	V _{CE0}	-180	V
Emitter-Base Voltage	V _{EB0}	-5	V
Collector Current	I _C	-100	mA
Collector Dissipation (T _a =25°C)	P _C	1.2	W
Collector Dissipation (T _c =25°C)	P _C	8	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-55~150	°C



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ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I _{CB0}	V _{CB} =-180V, I _E =0			-1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} =-3V, I _C =0			-1	μA
* DC Current Gain	h _{FE1}	V _{CE} =-5V, I _C =-1mA	90	200		
	h _{FE2}	V _{CE} =-5V, I _C =-10mA	100	200	320	
* Collector Emitter Saturation Voltage	V _{CE (sat)}	I _C =-50mA, I _B =-5mA		-0.16	-0.5	V
* Base Emitter Saturation Voltage	V _{BE (sat)}	I _C =-50mA, I _B =-5mA		-0.8	-1.5	V
Current Gain Bandwidth Product	f _T	V _{CE} =-10V, I _C =-20mA		180		MHz
Output Capacitance	C _{ob}	V _{CB} =-10V, I _E =0		4.5	7	pF
		f=1MHz				
Noise Figure	NF	V _{CE} =-10V, I _C =-1mA R _s =10kΩ, f=1kHz		4		dB

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

h_{FE}(2) CLASSIFICATION

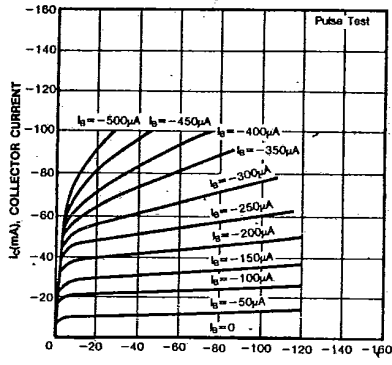
Classification	O	Y
h _{FE} (2)	100-200	160-320

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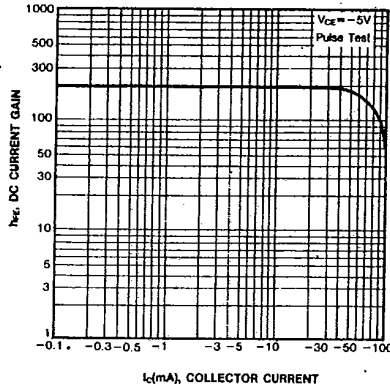
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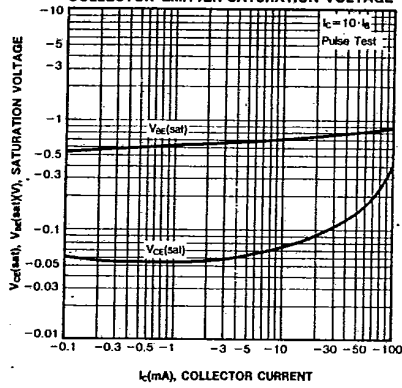
STATIC CHARACTERISTIC



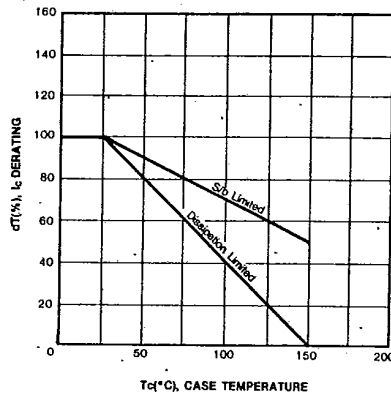
DC CURRENT GAIN



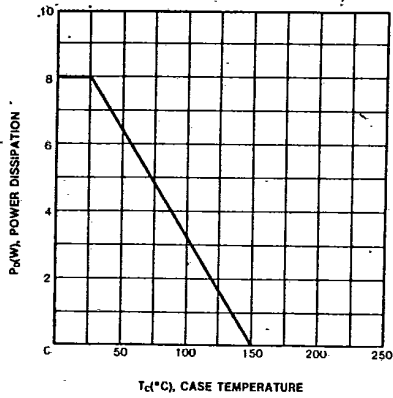
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



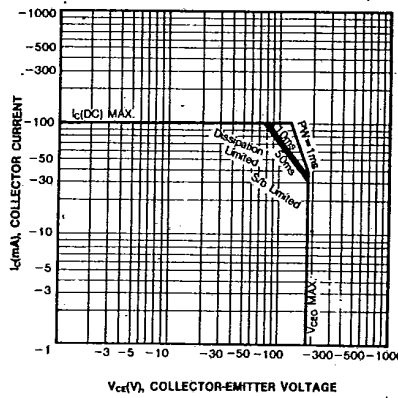
DERATING CURVE OF SAFE OPERATING AREAS



POWER DERATING



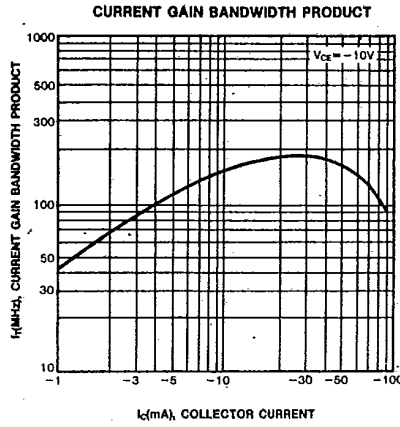
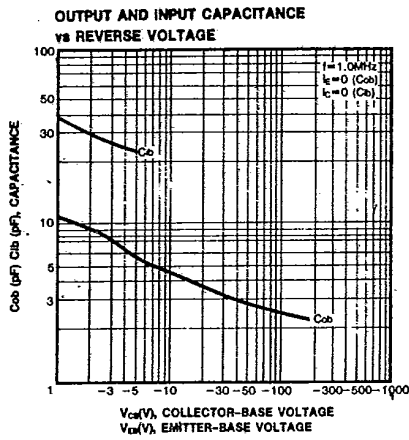
SAFE OPERATING AREA



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KSA1220/1220A**PNP EXITAXIAL SILICON TRANSISTOR**

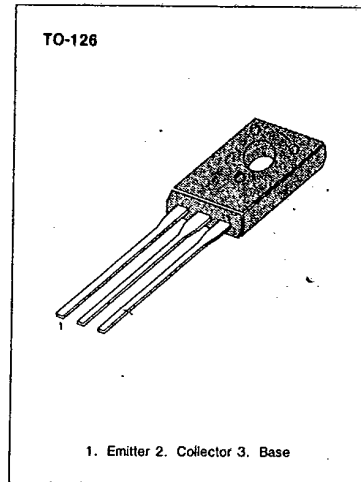
7-33-19

**AUDIO FREQUENCY POWER AMPLIFIER
HIGH FREQUENCY POWER AMPLIFIER**

• Complement to KSC2690/KSC2690A

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage : KSA1220	V _{CB0}	-120	V
: KSA1220A		-160	V
Collector-Emitter Voltage : KSA1220	V _{CE0}	-120	V
: KSA1220A		-160	V
Emitter-Base Voltage	V _{EB0}	-5	V
Collector Current (DC)	I _C	-1.2	A
*Collector Current (Pulse)	I _C	-2.5	A
Base Current	I _B	-0.3	A
Collector Dissipation (T _a = 25°C)	P _C	1.2	W
Collector Dissipation (T _c = 25°C)	P _C	20	W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{stg}	-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 _{CB0}	V _{CB} = -120V, I _E = 0			-1	μA
Emitter Cutoff Current	I _{EB0}	V _{EB} = -3V, I _C = 0			-1	μA
*DC Current Gain	h _{FE1}	V _{CE} = -5V, I _C = -5mA	35	150		
	h _{FE2}	V _{CE} = -5V, I _C = -0.3A	60	140	320	
*Collector Emitter Saturation Voltage	V _{CE(sat)}	I _C = -1A, I _B = -0.2A		-0.4	-0.7	V
*Base Emitter Saturation Voltage	V _{BE(sat)}	I _C = -1A, I _B = -0.2A		-1	-1.3	V
Current Gain Bandwidth Product	f _T	V _{CE} = -5V, I _C = -0.2A		175		MHz
Output Capacitance	C _{ob}	V _{CB} = -10V, I _E = 0 f = 1MHz		26		pF

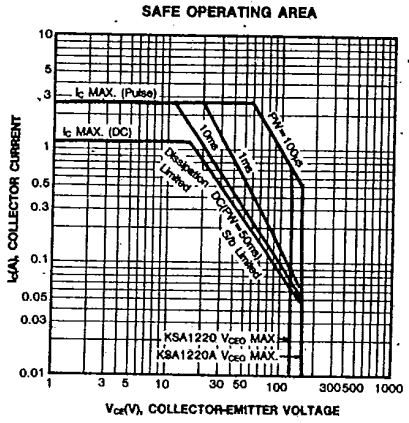
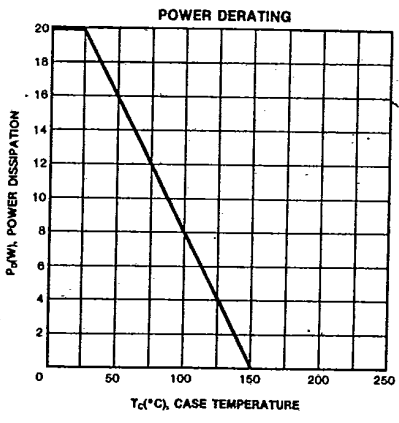
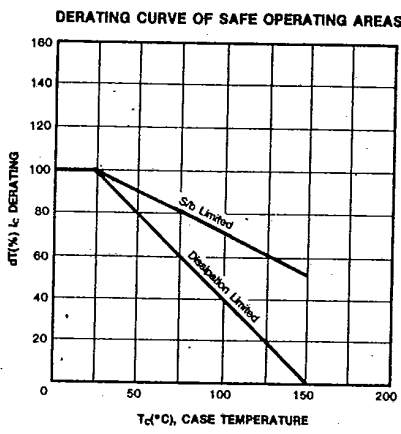
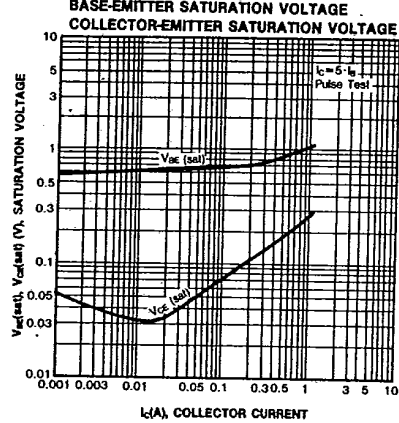
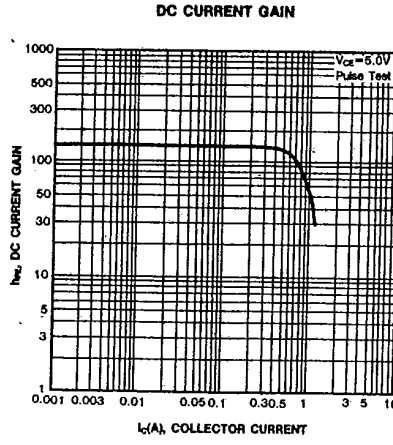
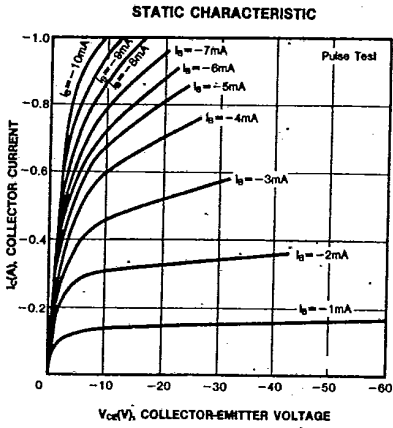
• Pulse Test: PW ≤ 350μs, Duty Cycle ≤ 2% Pulsed

h_{FE} (2) CLASSIFICATION

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

KSA1220/1220A PNP EXITAXIAL SILICON TRANSISTOR

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KSA1220/1220A

PNP EXITAXIAL SILICON TRANSISTOR

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