

KSB1151

PNP EPITAXIAL SILICON TRANSISTOR

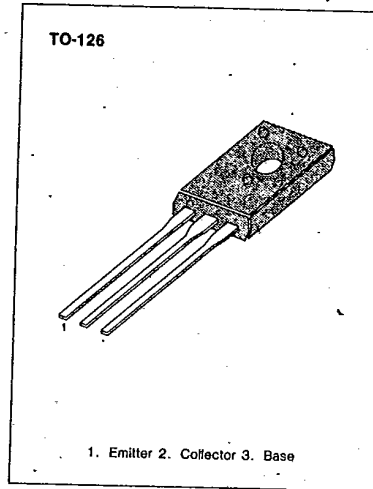
T-33-19

**LOW COLLECTOR SATURATION VOLTAGE
LARGE CURRENT**

HIGH POWER DISSIPATION: $P_T=1.3W$ ($T_a=25^\circ C$)
Complementary to KSD1691

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	-60	V
Collector-Emitter Voltage	V_{CEO}	-60	V
Emitter-Base Voltage	V_{EB0}	-7	V
Collector Current (DC)	I_C	-5	A
*Collector Current (Pulse)	I_C	-8	A
Base Current (DC)	I_B	-1	A
Collector Dissipation ($T_a=25^\circ C$)	P_C	1.3	W
Collector Dissipation ($T_c=25^\circ C$)	P_C	20	W
Junction Temperature	TJ	150	$^\circ C$
Storage Temperature	Tstg	-55~150	$^\circ C$



3

* $PW < 10ms$, Duty Cycle $< 50\%$

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CBO}	$V_{CB} = -50V, I_E = 0$			-10	μA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = -7V, I_C = 0$			-10	μA
*DC Current Gain	h_{FE1}	$V_{CE} = -1V, I_C = -0.1A$	60			
	h_{FE2}	$V_{CE} = -1V, I_C = -2A$	100	200	400	
	h_{FE3}	$V_{CE} = -2V, I_C = -5A$	50			
*Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -2A, I_B = -0.2A$		-0.14	-0.3	V
*Base-Emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -2A, I_B = -0.2A$		-0.9	-1.2	V
Turn On Time	t_{on}	$I_C = -2A, I_{B1} = -I_{B2} = 0.2A$		0.15	1	μS
Storage Time	t_{stg}	$RL = 5\Omega, V_{CC} = -10V$		0.78	2.5	μS
Fall Time	t_f			0.18	1	μS

* Pulse test: $PW < 350\mu s$, Duty Cycle $< 2\%$ Pulsed

$h_{FE}(2)$ CLASSIFICATION

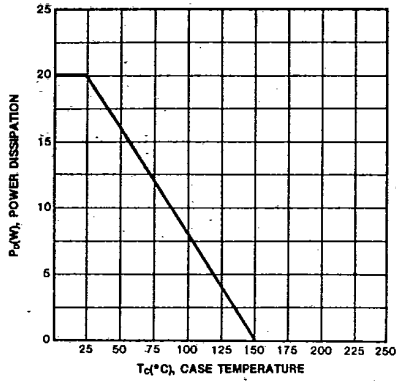
Classification	O	Y	G
h_{FE2}	100-200	160-320	200-400

KSB1151

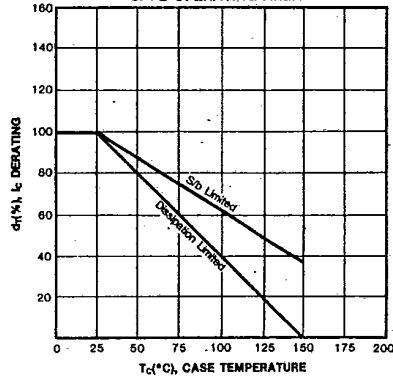
PNP EPITAXIAL SILICON TRANSISTOR

1-33-19

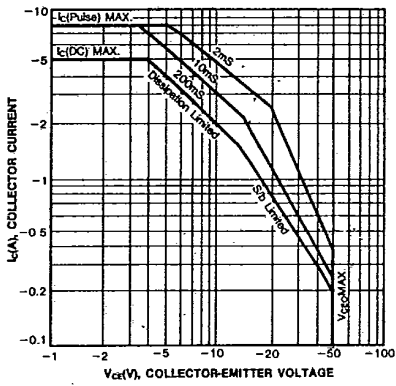
POWER DERATING



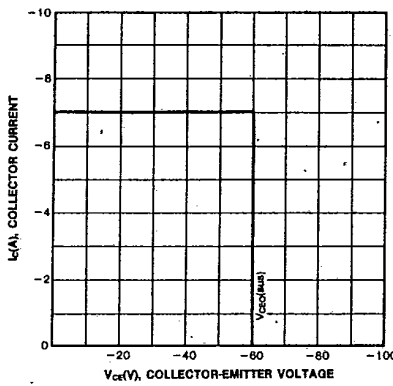
DERATING CURVE OF SAFE OPERATING AREAS



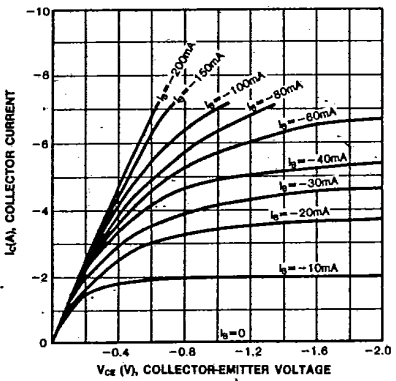
FORWARD BIAS OPERATING AREA



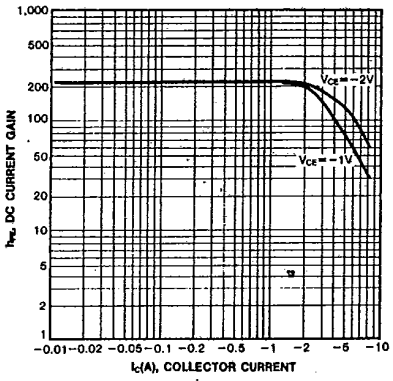
REVERSE BIAS SAFE OPERATING AREA



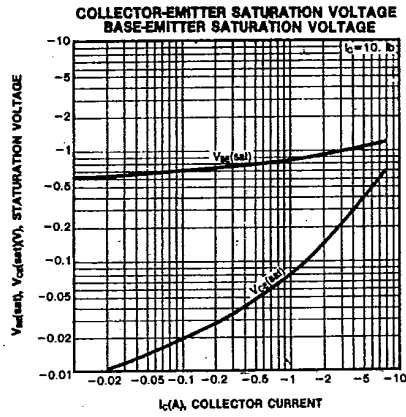
STATIC CHARACTERISTIC



DC CURRENT GAIN



T-33-19



3



KSC1096**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-07

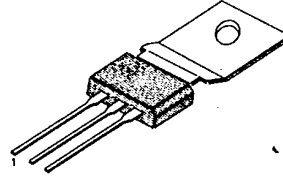
LOW FREQUENCY POWER AMPLIFIER

- Complement to KSA634
- Collector Current $I_C=2.0A$
- Collector Dissipation $P_C=10W$ ($T_a=25^\circ C$)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	40	V
Collector-Emitter Voltage	V_{CE0}	30	V
Emitter-Base Voltage	V_{EB0}	5	V
Collector Current	I_C	2.0	A
Collector Dissipation ($T_C=25^\circ C$)	P_C	10	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ C$

TO-202



1. Base 2. Collector 3. Emitter

ELECTRICAL CHARACTERISTICS ($T_a=25^\circ C$)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C=500\mu A, I_E=0$	40			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C=10mA, I_B=0$	30			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E=-500\mu A, I_C=0$	5			V
Collector Cut-off Current	I_{CB0}	$V_{CB}=30V, I_E=0$			1	μA
DC Current Gain	h_{FE}	$V_{CE}=5V, I_C=1.0A$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C=2A, I_B=0.2A$			1.0	V

 h_{FE} CLASSIFICATION

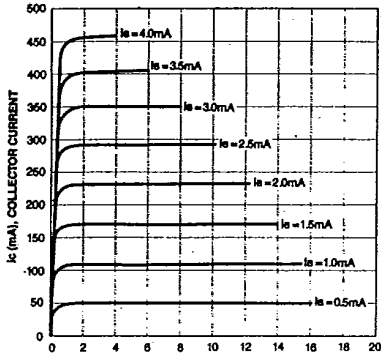
Classification	R	O	Y
h_{FE}	40-80	70-140	120-240

KSC1096

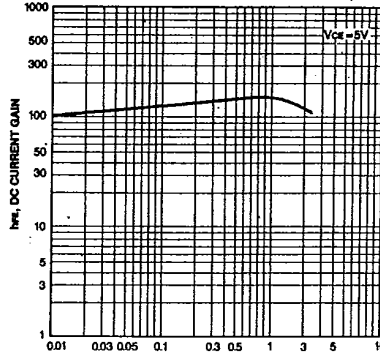
NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

STATIC CHARACTERISTIC

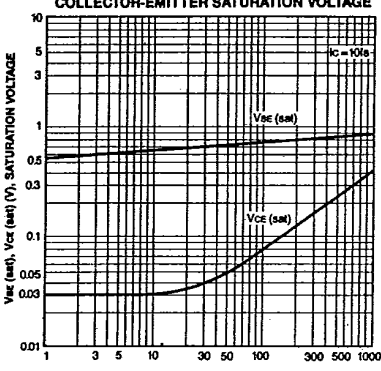


DC CURRENT GAIN

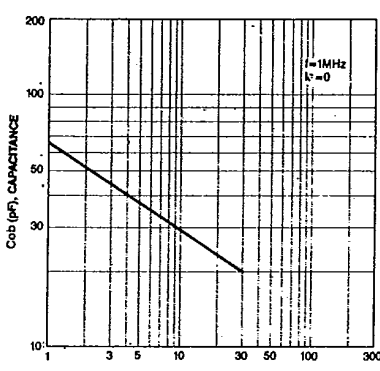


BASE-EMITTER SATURATION VOLTAGE

COLLECTOR-EMITTER SATURATION VOLTAGE

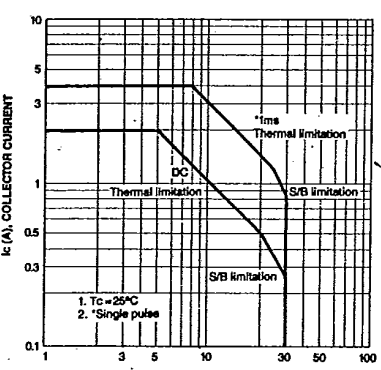


COLLECTOR OUTPUT CAPACITANCE



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SAFE OPERATING AREA



POWER DERATING

