

SAMSUNG SEMICONDUCTOR INC

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KSC1520

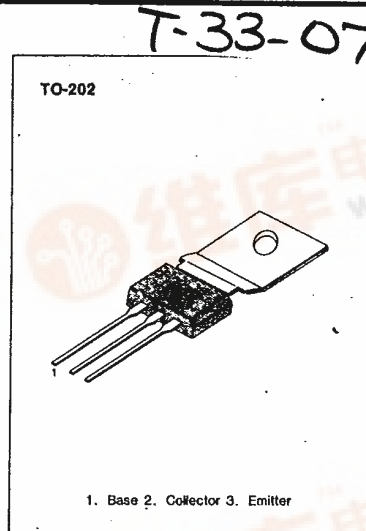
NPN EPITAXIAL SILICON TRANSISTOR

COLOR TV CHROMA OUTPUT

- High Collector-Emitter Voltage $V_{CE0} = 250V$
- Current Gain-Bandwidth Product $f_T = 80MHz$ (Typ)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	250	V
Collector-Emitter Voltage	V_{CE0}	250	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	200	mA
Collector Dissipation ($T_c = 25^\circ C$)	P_C	10	W
Junction Temperature	T_J	150	$^\circ C$
Storage Temperature	T_{stg}	-55 ~ +150	$^\circ C$



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu A, I_E = 0$	250			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 10mA, I_B = 0$	250			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = -100\mu A, I_C = 0$	7			V
Collector Cut-off Current	I_{CBO}	$V_{CB} = 150V, I_E = 0$			1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 10mA$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$			2.0	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 30V, I_C = 10mA$	40	80		MHz
Output Capacitance	C_{ob}	$V_{CB} = 50V, I_E = 0, f = 1MHz$		4		pF

h_{FE} CLASSIFICATION

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

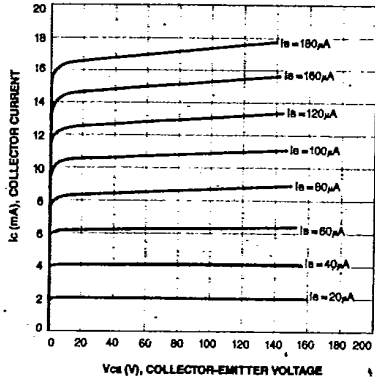


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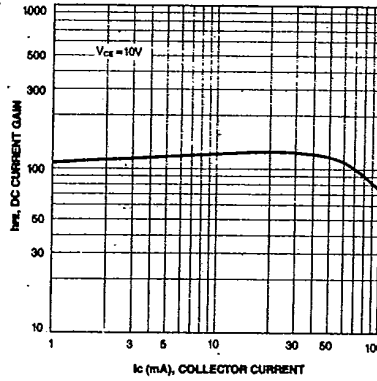
NPN EPITAXIAL SILICON TRANSISTOR

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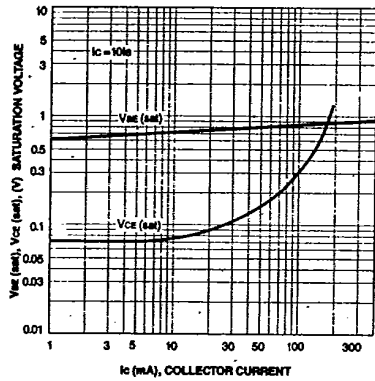
STATIC CHARACTERISTIC



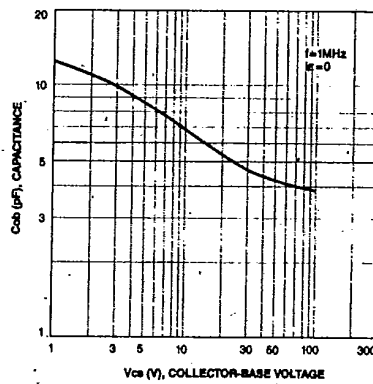
DC CURRENT GAIN



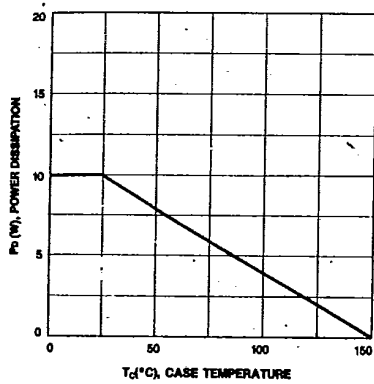
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



KSC1520A**NPN EPITAXIAL SILICON TRANSISTOR**

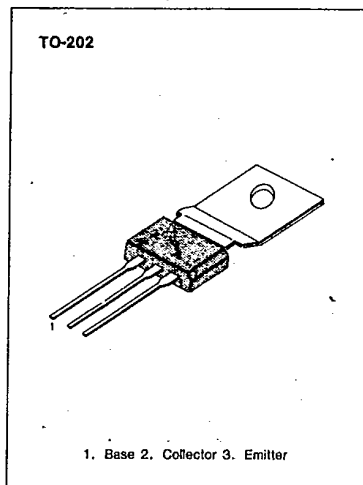
T-33-07

COLOR TV CHROMA OUTPUT

- High Collector-Emitter Voltage $V_{CE0} = 300V$
- Current Gain-Bandwidth Product $f_T = 80MHz$ (Typ)

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

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	300	V
Collector-Emitter Voltage	V_{CE0}	300	V
Emitter-Base Voltage	V_{EB0}	7	V
Collector Current	I_C	200	mA
Collector Dissipation ($T_c = 25^\circ C$)	P_C	10	W
Junction Temperature	TJ	150	$^\circ C$
Storage Temperature	Tstg	-55 ~ +150	$^\circ C$



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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CB0}	$I_C = 100\mu A, I_E = 0$	300			V
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 10mA, I_B = 0$	300			V
Emitter-Base Breakdown Voltage	BV_{EB0}	$I_E = -100\mu A, I_C = 0$	7			V
Collector Cutoff Current	I_{CB0}	$V_{CB} = 150V, I_E = 0$			1	μA
DC Current Gain	h_{FE}	$V_{CE} = 10V, I_C = 10mA$	40		240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50mA, I_B = 5mA$			2.0	V
Current Gain-Bandwidth Product	f_T	$V_{CE} = 30V, I_C = 10mA$	40	80		MHz
Output Capacitance	Cob	$V_{CB} = 50V, I_E = 0$ $f = 1MHz$		5		pF

 h_{FE} CLASSIFICATION

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

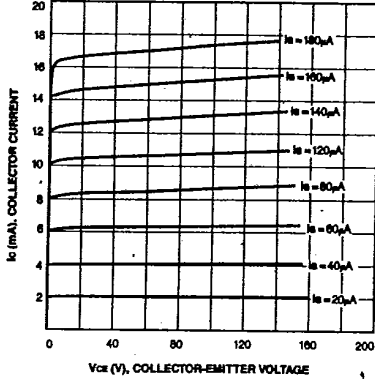


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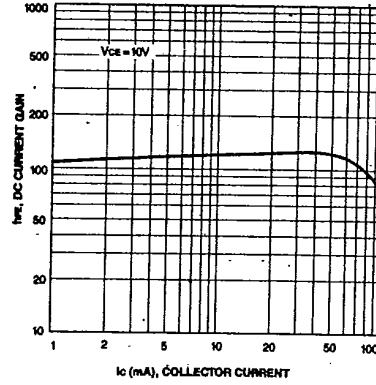
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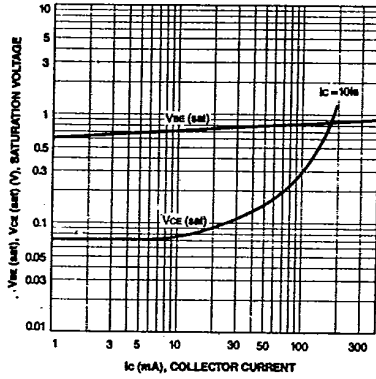
STATIC CHARACTERISTIC



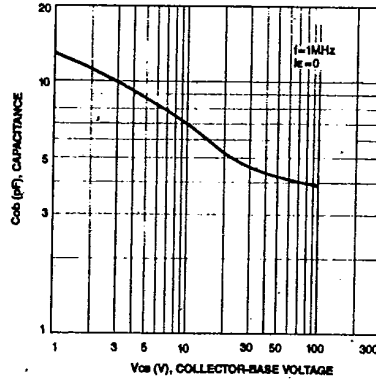
DC CURRENT GAIN



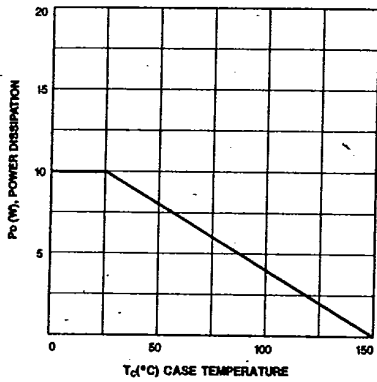
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING

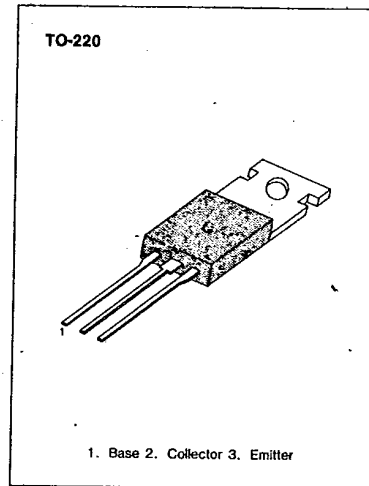


KSC1983**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-09

HIGH β POWER TRANSISTOR**ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CB0}	80	V
Collector-Emitter Voltage	V_{CE0}	60	V
Emitter-Base Voltage	V_{EB0}	6	V
Collector Current	I_C	3	A
Base Current	I_B	1	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}	$-55 \sim 150$	$^\circ\text{C}$



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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{CB0}	$V_{CB} = 80\text{V}, I_E = 0$			100	μA
Emitter Cutoff Current	I_{EB0}	$V_{EB} = 6\text{V}, I_C = 0$			100	μA
Collector-Emitter Breakdown Voltage	BV_{CE0}	$I_C = 25\text{mA}, I_B = 0$	60			V
*DC Current Gain	h_{FE}	$V_{CE} = 4\text{V}, I_C = 0.5\text{A}$	500			
*Collector Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 2\text{A}, I_B = 0.05\text{A}$			1	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 12\text{V}, I_E = -0.2\text{A}$		15		MHz



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NPN EPITAXIAL SILICON TRANSISTOR

T-33.09

