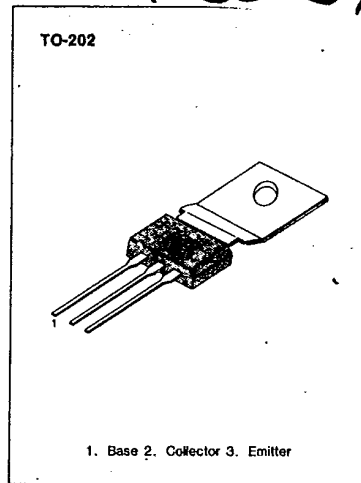


**KSC1520****NPN EPITAXIAL SILICON TRANSISTOR****COLOR TV CHROMA OUTPUT**

- 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	$V_{CBO}$	250	V
Collector-Emitter Voltage	$V_{CEO}$	250	V
Emitter-Base Voltage	$V_{EBO}$	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 to +150	$^\circ C$

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	250			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 10mA, I_B = 0$	250			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = -100\mu A, I_C = 0$	7			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB} = 150V, I_E = 0$			1	$\mu A$
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

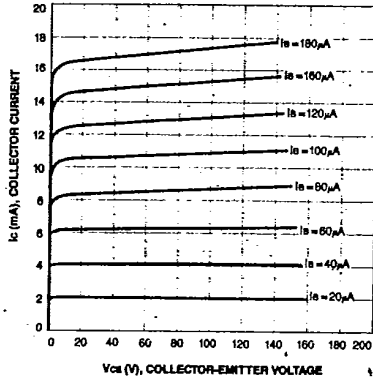


KSC1520

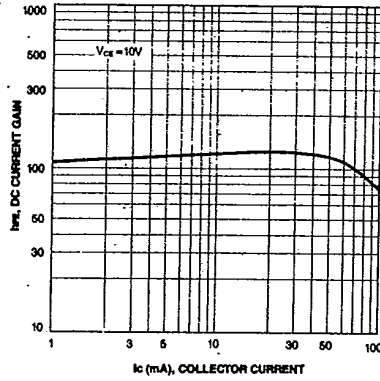
NPN EPITAXIAL SILICON TRANSISTOR

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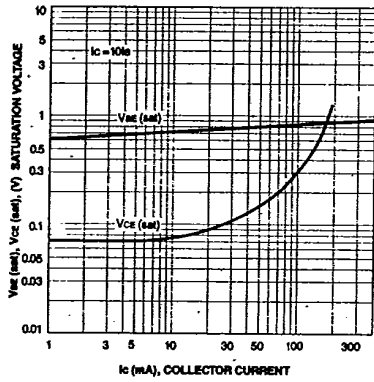
STATIC CHARACTERISTIC



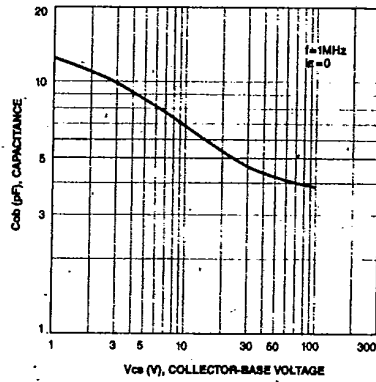
DC CURRENT GAIN



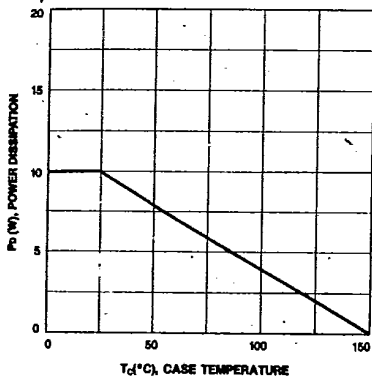
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



**KSC1520A****NPN EPITAXIAL SILICON TRANSISTOR**

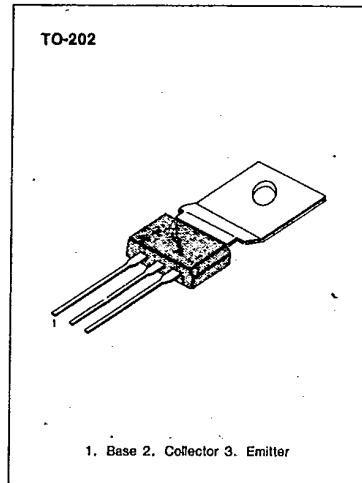
T-33-07

**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	$V_{CBO}$	300	V
Collector-Emitter Voltage	$V_{CEO}$	300	V
Emitter-Base Voltage	$V_{EBO}$	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	$^\circ C$



3

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

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C = 100\mu A, I_E = 0$	300			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C = 10mA, I_B = 0$	300			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E = -100\mu A, I_C = 0$	7			V
Collector Cutoff Current	$I_{CBO}$	$V_{CB} = 150V, I_E = 0$			1	$\mu A$
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	$C_{ob}$	$V_{CB} = 50V, I_E = 0$ $f = 1MHz$		5		pF

 **$h_{FE}$  CLASSIFICATION**

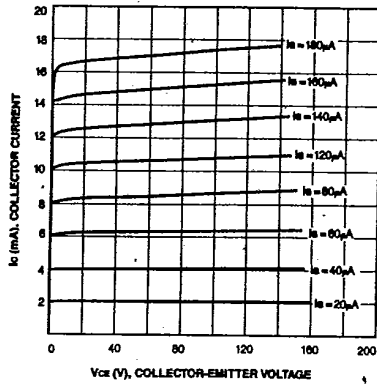
Classification	R	O	Y
$h_{FE}$	40-80	70-140	120-240

KSC1520A

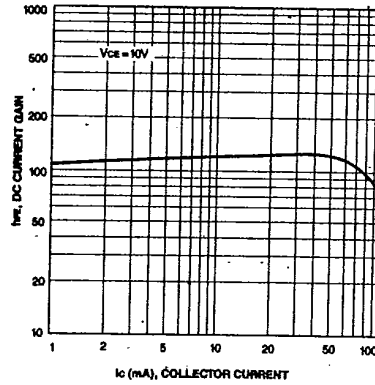
NPN EPITAXIAL SILICON TRANSISTOR

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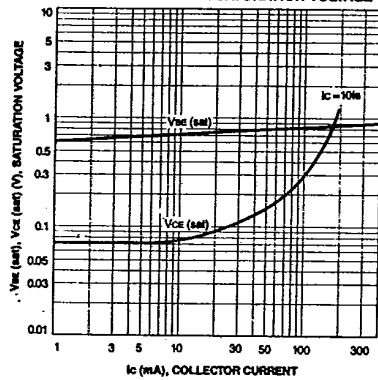
STATIC CHARACTERISTIC



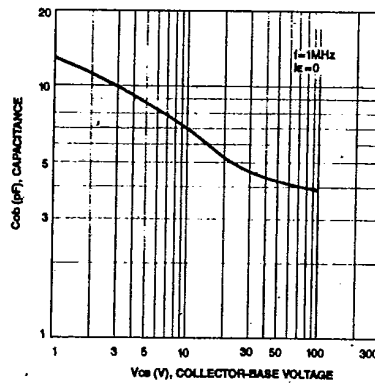
DC CURRENT GAIN



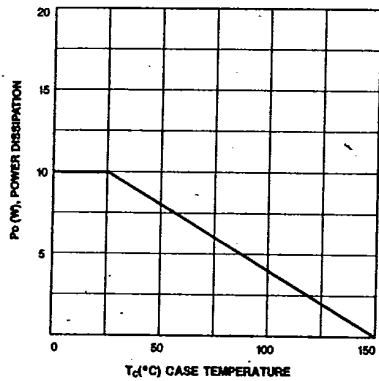
BASE-EMITTER SATURATION VOLTAGE  
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING

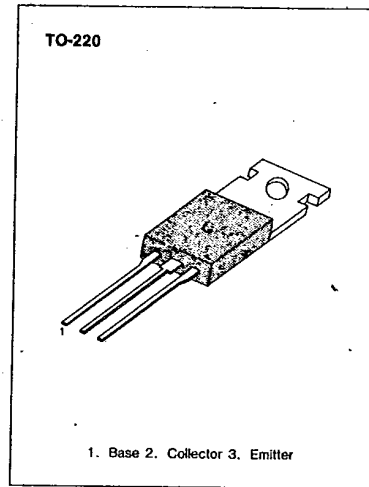


**KSC1983****NPN EPITAXIAL SILICON TRANSISTOR**

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**HIGH  $\beta$  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	$T_{stg}$	-55~150	$^\circ\text{C}$



3

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	$I_{C0}$	$V_{CB}=80\text{V}, I_E=0$			100	$\mu\text{A}$
Emitter Cutoff Current	$I_{E0}$	$V_{EB}=6\text{V}, I_C=0$			100	$\mu\text{A}$
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=25\text{mA}, I_B=0$	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



KSC1983

NPN EPITAXIAL SILICON TRANSISTOR

T-33.09

