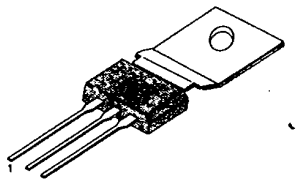
KSC1520 NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

COLOR TV CHROMA OUTPUT

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

TO-202



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°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°C)	P_C	10	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~+150	°C

3

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, 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=−100μA, 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	Cob	V_{CB}=50V, I_E=0 f=1MHz		4		pF

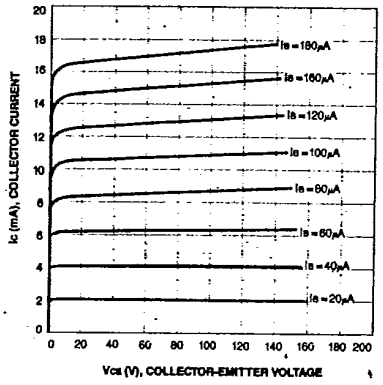
h_{FE} CLASSIFICATION

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

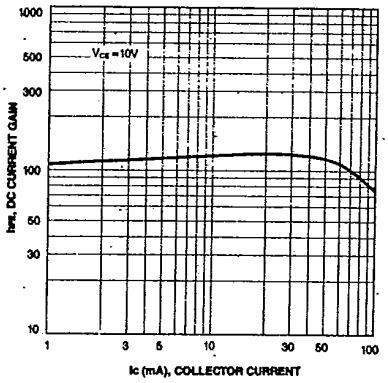
KSC1520 NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

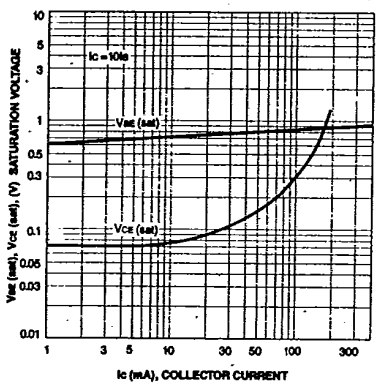
STATIC CHARACTERISTIC



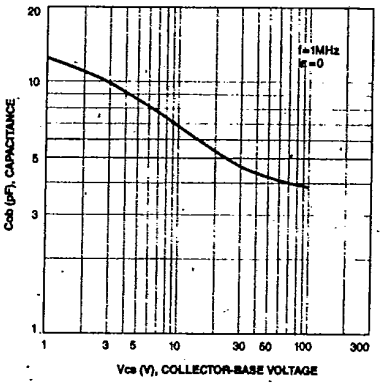
DC CURRENT GAIN



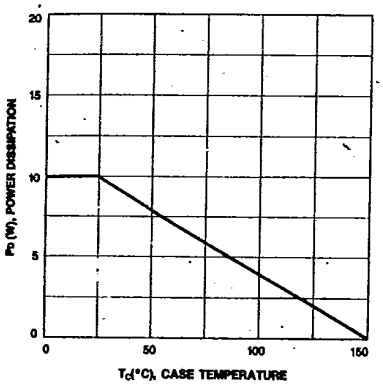
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING



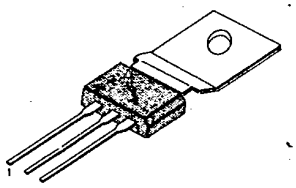
KSC1520A NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

COLOR TV CHROMA OUTPUT

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

TO-202



1. Base 2. Collector 3. Emitter

ABSOLUTE MAXIMUM RATINGS (T_a=25°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°C)	P_C	10	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~+150	°C

3

ELECTRICAL CHARACTERISTICS (T_a=25°C)

Characteristic	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	BV_{CBO}	I_C=100μA, 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=−100μA, I_C=0	7			V
Collector Cutoff 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	Cob	V_{CB}=50V, I_E=0 f=1MHz		5		pF

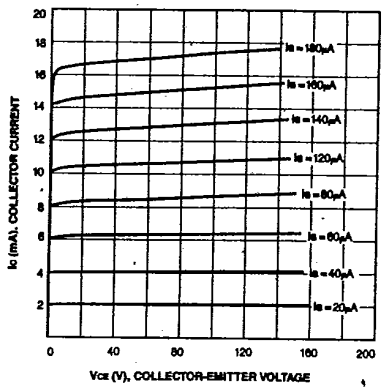
h_{FE} CLASSIFICATION

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

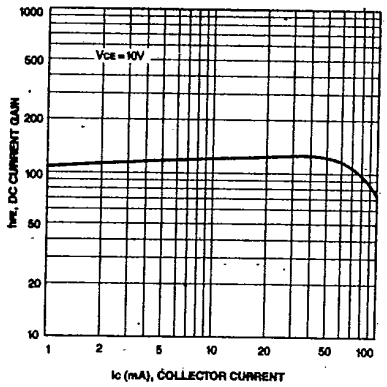
KSC1520A NPN EPITAXIAL SILICON TRANSISTOR

T-33-07

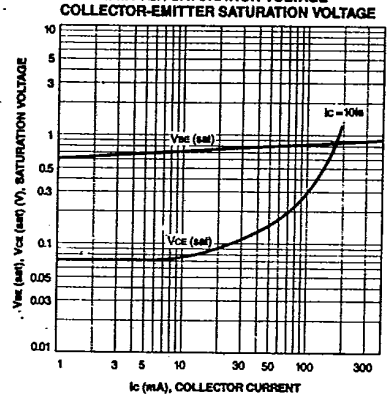
STATIC CHARACTERISTIC



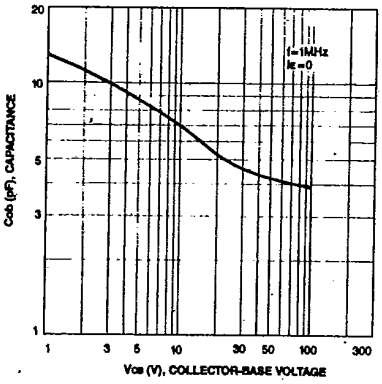
DC CURRENT GAIN



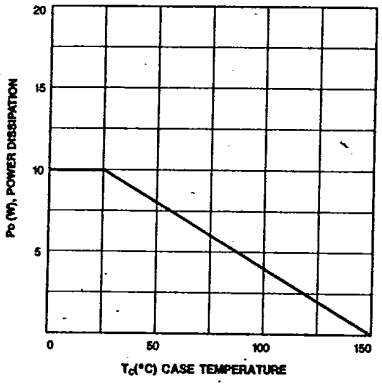
BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE



COLLECTOR OUTPUT CAPACITANCE



POWER DERATING

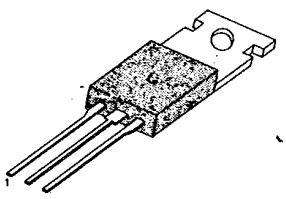


KSC1983 NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

HIGH β POWER TRANSISTOR

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}	6	V
Collector Current	I_C	3	A
Base Current	I_B	1	A
Collector Dissipation (T_c=25°C)	P_C	30	W
Junction Temperature	Tj	150	°C
Storage Temperature	Tstg	−55~150	°C

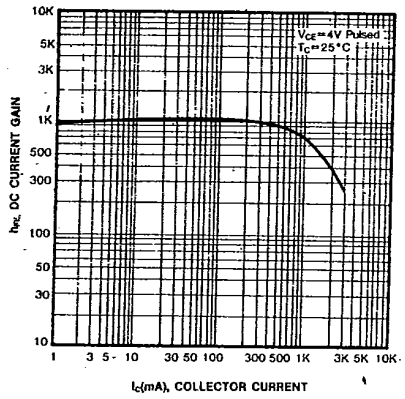
ELECTRICAL CHARACTERISTICS (T_a=25°C)

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

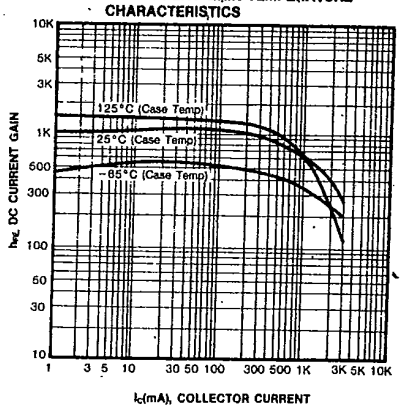
KSC1983 NPN EPITAXIAL SILICON TRANSISTOR

T-33-09

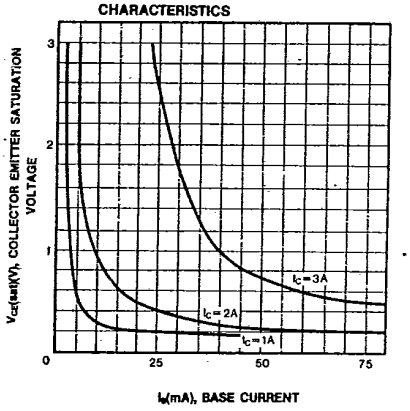
DC CURRENT GAIN



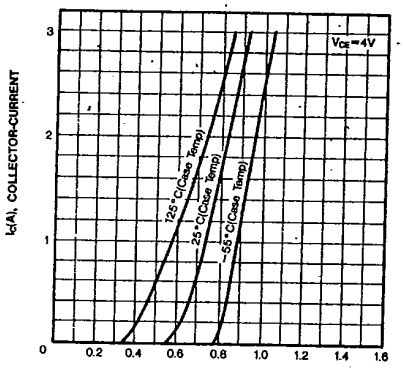
DC CURRENT GAIN TEMPERATURE CHARACTERISTICS



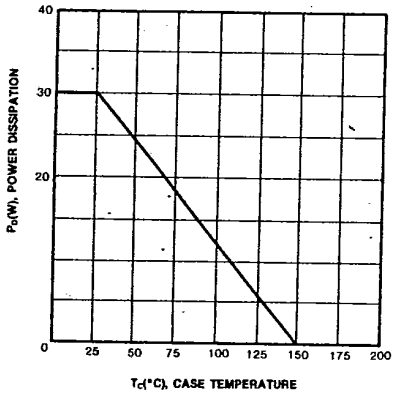
COLLECTOR EMITTER SATURATION CHARACTERISTICS



BASE-EMITTER ON VOLTAGE



POWER DERATING



SAFE OPERATING AREA