

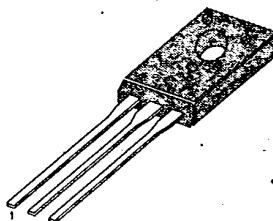
KSC2682**NPN EPITAXIAL SILICON TRANSISTOR****AUDIO FREQUENCY POWER AMPLIFIER**

• Complement to KSA1142

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

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 ($T_a=25^\circ\text{C}$)	P_C	1.2	W
Collector Dissipation ($T_c=25^\circ\text{C}$)	P_C	8	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-18



1. Emitter 2. Collector 3. Base

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I_{C0}	$V_{CB}=180\text{V}, I_E=0$			1.0	μA
Emitter Cutoff Current	I_{E0}	$V_{EB}=3\text{V}, I_C=0$			1.0	μA
• DC Current Gain	h_{FE1}	$V_{CE}=5\text{V}, I_C=1\text{mA}$	90	190		
	h_{FE2}	$V_{CE}=5\text{V}, I_C=10\text{mA}$	100	200	320	
* Collector Emitter Saturation Voltage	$V_{CE}(\text{sat})$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.12	0.5	V
* Base Emitter Saturation Voltage	$V_{BE}(\text{sat})$	$I_C=50\text{mA}, I_B=5\text{mA}$		0.8	1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE}=10\text{V}, I_C=20\text{mA}$		200		MHz
Output Capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0$ $f=1\text{MHz}$		3.2	5.0	pF
Noise Figure	NF	$V_{CE}=10\text{V}, I_C=1\text{mA}$ $R_S=10\text{k}\Omega, f=1\text{kHz}$		4		dB

• Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$ **$h_{FE}(2)$ CLASSIFICATION**

Classification	O	Y
$h_{FE}(2)$	100-200	160-320

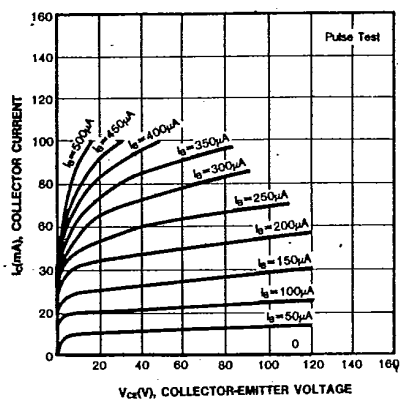


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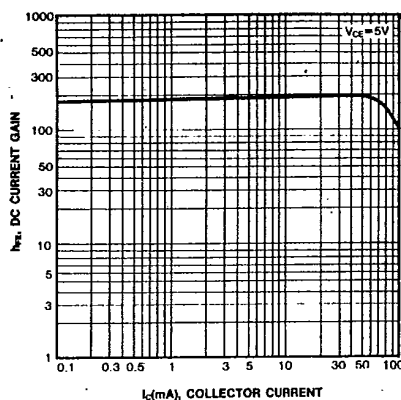
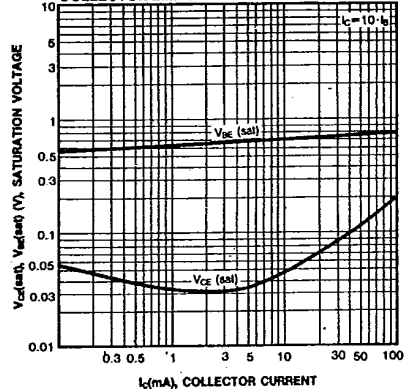
NPN EPITAXIAL SILICON TRANSISTOR

T-33-05

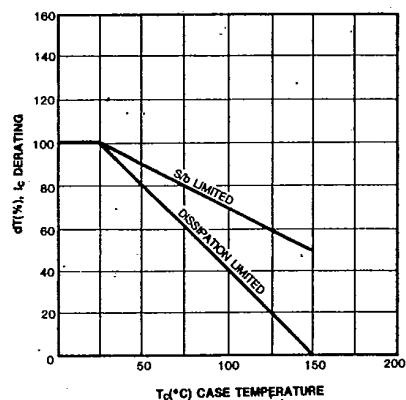
STATIC CHARACTERISTIC



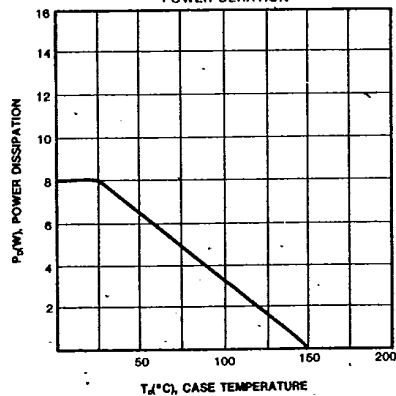
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

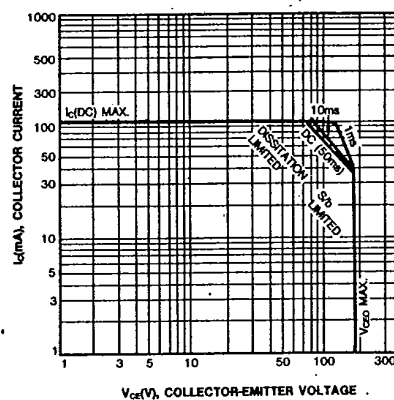
DERATING CURVE OF SAFE OPERATING AREAS



POWER DERATION

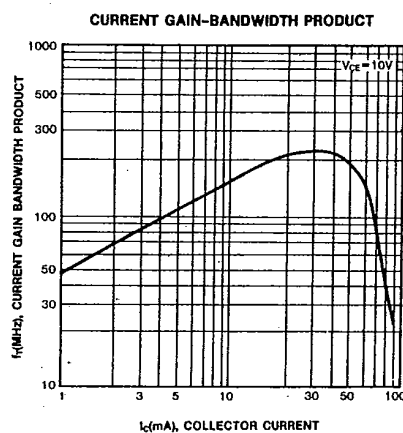
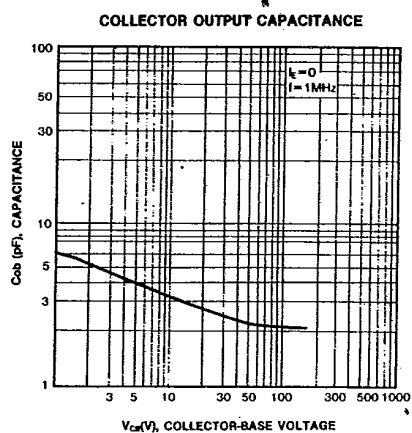


SAFE OPERATING AREA



SAMSUNG SEMICONDUCTOR

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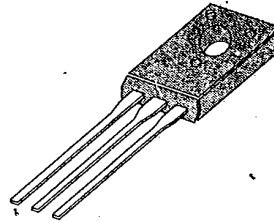
KSC2688**NPN EPITAXIAL SILICON TRANSISTOR**

T-33-07

**COLOR TV CHROMA OUTPUT
VIDEO OUTPUT****ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V_{CBO}	300	V
Collector-Emitter Voltage	V_{CEO}	300	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	200	mA
Collector Dissipation ($T_a = 25^\circ\text{C}$)	P_C	1.25	W
Collector Dissipation ($T_c = 25^\circ\text{C}$)	P_C	10	W
Junction Temperature	T_J	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55~150	$^\circ\text{C}$

TO-18



1. Emitter 2. Collector 3. Base

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

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector-Base Breakdown Voltage	V_{CBO}	$I_C = 0.1\text{mA}, I_E = 0$	300			V
Collector-Emitter Breakdown Voltage	V_{CEO}	$I_C = 5\text{mA}, I_B = 0, R_{BE} = \infty$	300			V
Emitter-Base Breakdown Voltage	V_{EBO}	$I_E = 0.1\text{mA}, I_C = 0$	5			V
Collector Cutoff Current	I_{CBO}	$V_{CB} = 200\text{V}, I_E = 0$			100	nA
Emitter Cutoff Current	I_{EBO}	$V_{EB} = 4\text{V}, I_C = 0$			100	nA
DC Current Gain	h_{FE}	$V_{CE} = 10\text{V}, I_C = 10\text{mA}$	40		250	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 50\text{mA}, I_B = 5\text{mA}$			1.5	V
Current Gain Bandwidth Product	f_T	$V_{CE} = 30\text{V}, I_E = -10\text{mA}$	50	80		MHz
Feed Back Capacitance	C_{re}	$V_{CB} = 30\text{V}, I_E = 0$ $f = 1\text{MHz}$			3	pF

* Pulse Test: $PW \leq 350\mu\text{s}$, Duty Cycle $\leq 2\%$ **h_{FE} CLASSIFICATION**

Classification	R	O	Y	G
h_{FE}	40-80	60-120	100-200	160-250

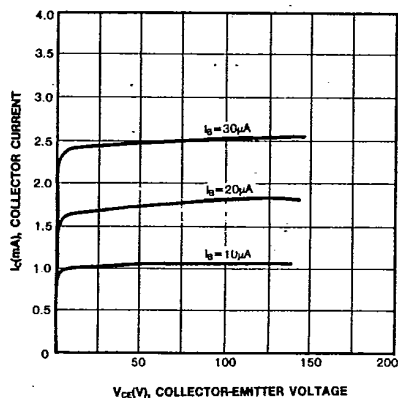


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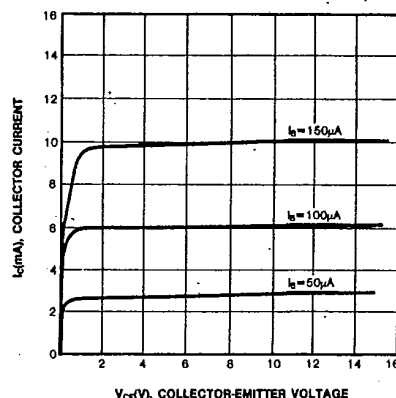
NPN EPITAXIAL SILICON TRANSISTOR

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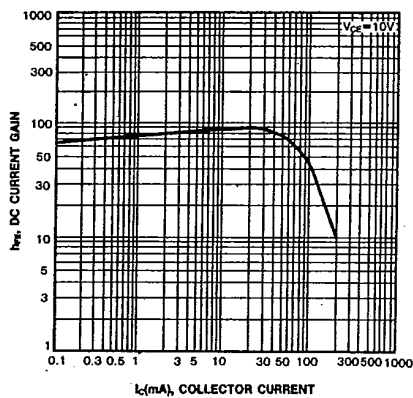
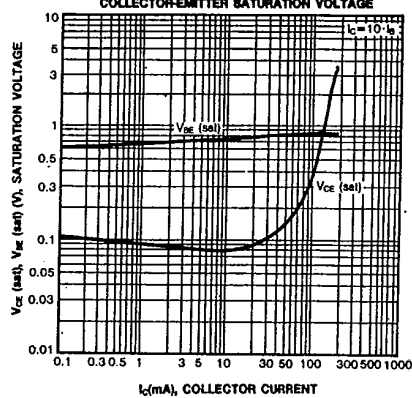
STATIC CHARACTERISTIC



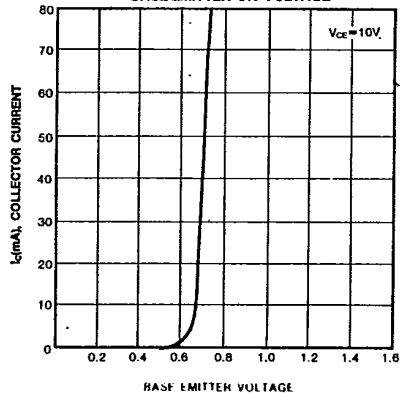
STATIC CHARACTERISTIC



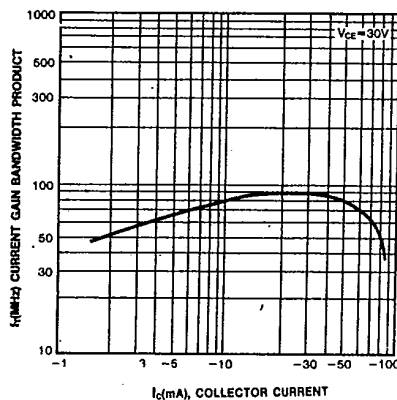
DC CURRENT GAIN

BASE-EMITTER SATURATION VOLTAGE
COLLECTOR-EMITTER SATURATION VOLTAGE

BASE-EMITTER ON VOLTAGE



CURRENT GAIN BANDWIDTH PRODUCT



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