

SAMSUNG SEMICONDUCTOR INC  
KSC2755

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NPN EPITAXIAL SILICON TRANSISTOR

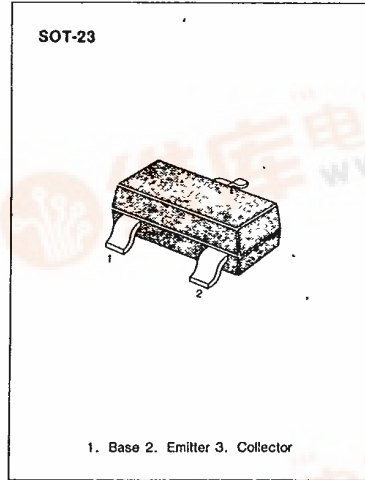
T-31-15

**RF AMP, FOR VHF TV TUNER**

- LOW NF, HIGH G<sub>pe</sub>
- NF=2.0dB Typ. G<sub>pe</sub>=23dB Typ. (f=200MHz)
- FORWARD AGC CAPABILITY TO 30 dB

**ABSOLUTE MAXIMUM RATINGS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Rating	Unit
Collector-Base Voltage	V <sub>CB0</sub>	30	V
Collector-Emitter Voltage	V <sub>CE0</sub>	30	V
Emitter-Base Voltage	V <sub>EB0</sub>	5	V
Collector Current (DC)	I <sub>c</sub>	20	mA
Collector Dissipation	P <sub>c</sub>	150	mW
Junction Temperature	T <sub>j</sub>	150	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ 150	°C

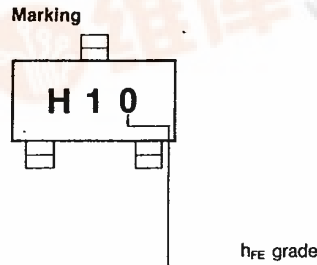


**ELECTRICAL CHARACTERISTICS (T<sub>a</sub> = 25°C)**

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Collector Cutoff Current	I <sub>CB0</sub>	V <sub>CB</sub> =20V, I <sub>E</sub> =0			0.1	μA
DC Current Gain	h <sub>FE</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =3mA	60	120	240	
Current Gain Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>C</sub> =-3mA	400	600		MHz
Reverse Transfer Capacitance	C <sub>re</sub>	f=1MHz, V <sub>CE</sub> =10V, I <sub>E</sub> =0		0.3	0.5	pF
Power Gain	G <sub>pe</sub>	f=200MHz, I <sub>C</sub> =3mA	20	23		dB
AGC Current	I <sub>KGC</sub>	f=200MHz		-10	-12	mA
Noise Figure	NF	I <sub>E</sub> of G <sub>pe</sub> -30dB f=200MHz, I <sub>C</sub> =3mA		2.0	3.0	dB

**h<sub>FE</sub> CLASSIFICATION**

Classification	R	O	Y
h <sub>FE</sub>	60-120	90-180	120-240

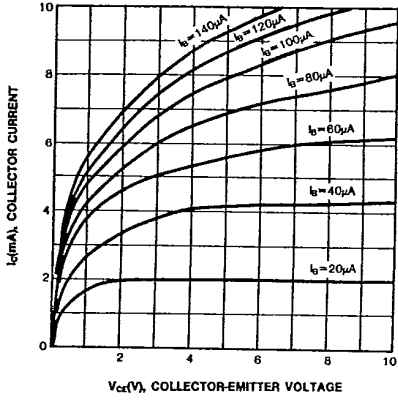


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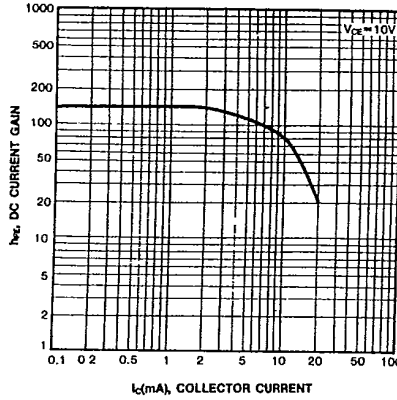
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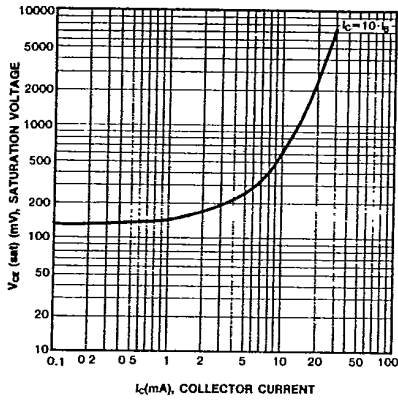
$I_C$ - $V_{CE}$  CHARACTERISTIC



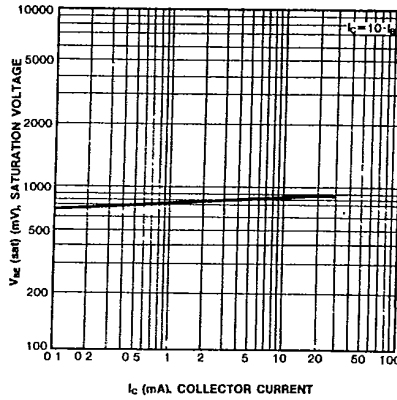
$h_{FE}$ - $I_C$  CHARACTERISTIC



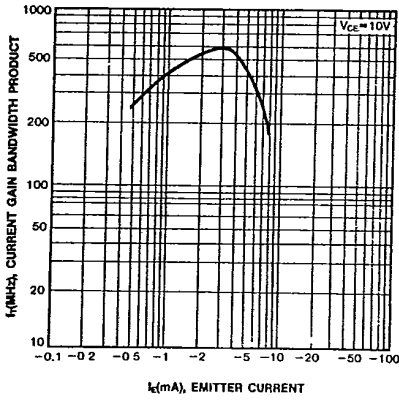
$V_{CE}$  (sat)- $I_C$  CHARACTERISTIC



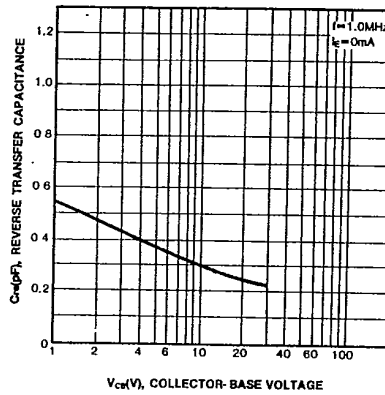
$V_{BE}$  (sat)- $I_C$  CHARACTERISTIC



$f_T$ - $I_E$  CHARACTERISTIC



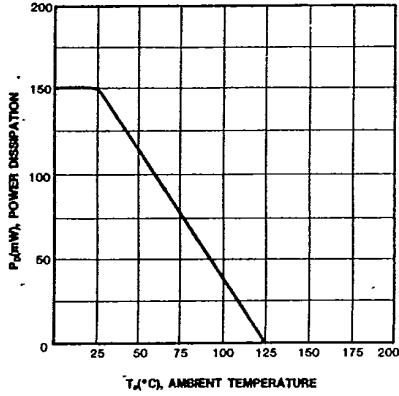
$C_{re}$ - $V_{CB}$  CHARACTERISTIC



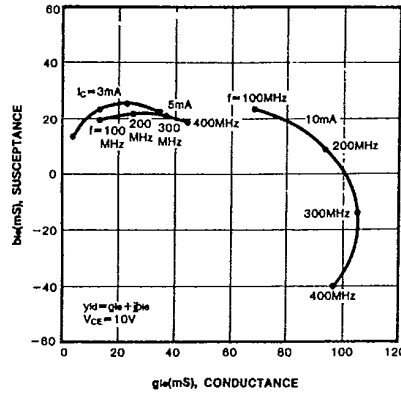
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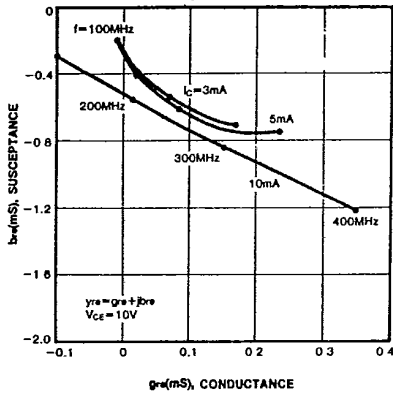
**$P_D$ - $T_A$  CHARACTERISTIC**



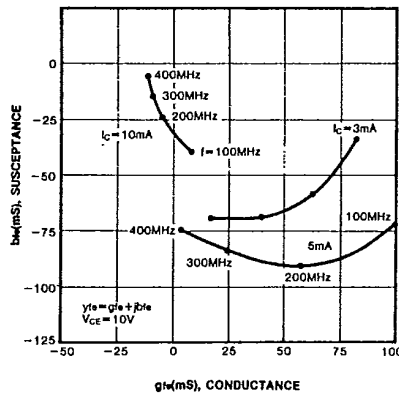
**$y_{ie}$ - $f$  CHARACTERISTIC**



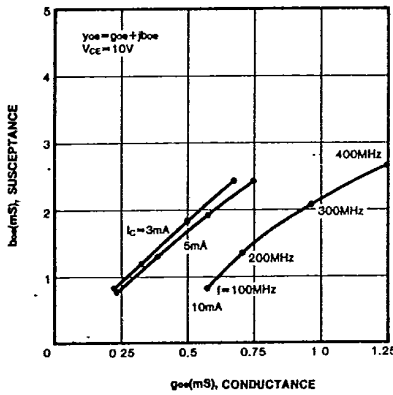
**$y_{re}$ - $f$  CHARACTERISTIC**



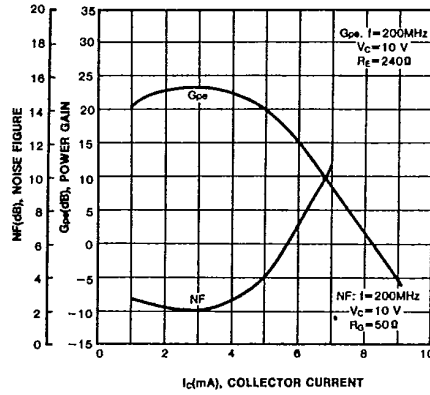
**$y_{fe}$ - $f$  CHARACTERISTIC**



**$y_{oe}$ - $f$  CHARACTERISTIC**



**$G_{pe}$ - $I_C$ , NF- $I_C$  CHARACTERISTIC**

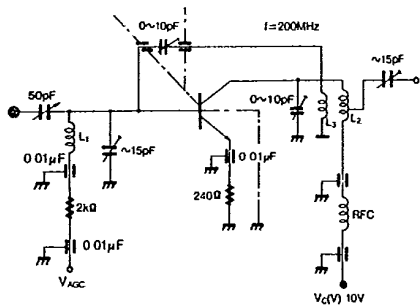


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POWER GAIN AND NOISE FIGURE TEST



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