

SAMSUNG SEMICONDUCTOR INC 14E D 7964142 0006870 6 T-31-15  
**KSC1070 (1)/1070 (2) NPN EPITAXIAL SILICON TRANSISTOR**

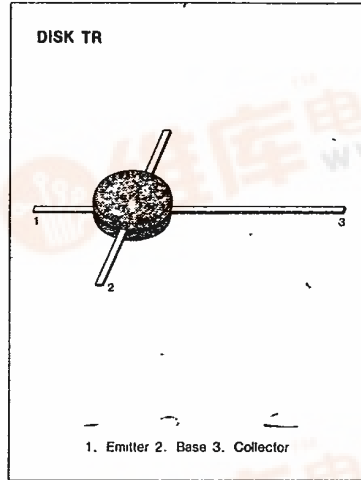
**UHF TV TUNER RF AMPLIFIER, MIXER**

DISK MOLD

HIGH PG, LOW NF (PG: 18dB, NF: 2.8dB, @900MHz)

**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>	25	V
Emitter-Base Voltage	V <sub>EB0</sub>	3.0	V
Collector Current	I <sub>C</sub>	20	mA
Collector Dissipation	P <sub>C</sub>	200	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> =25V, 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	40	80	200	
Current Gain-Bandwidth Product	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =-3mA	750	1000		MHz
Output Capacitance	C <sub>ob</sub>	f=1MHz, V <sub>CB</sub> =10V, I <sub>E</sub> =0		0.55	0.8	pF
Noise Figure	NF	V <sub>CB</sub> =10V, I <sub>E</sub> =-3mA f=900MHz		2.8	4.0	dB
Power Gain	PG	V <sub>CB</sub> =10V, I <sub>E</sub> =-3mA f=900MHz	14	18		dB
AGC Current: Only to C1070 (1)	I <sub>AGC</sub>	I <sub>E</sub> of PG -30dB f=900MHz	-8		-11	mA

KSC1070 (1): I<sub>AGC</sub> Classification P: -9~-11mA

Q: -8~-10mA

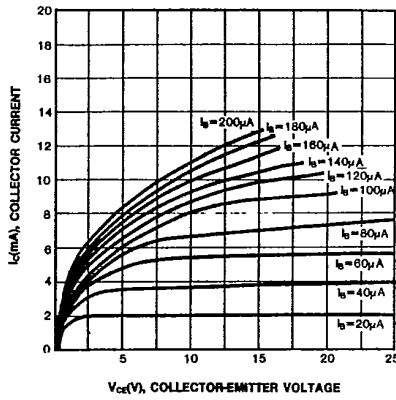
KSC1070 (2): h<sub>FE</sub> Classification F: 40~200



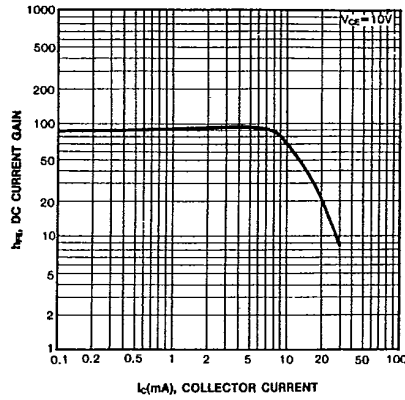
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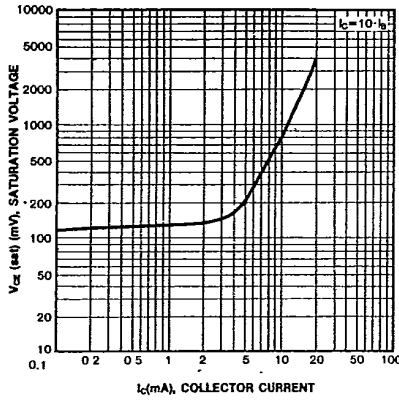
**$I_C$ - $V_{CE}$  CHARACTERISTIC**



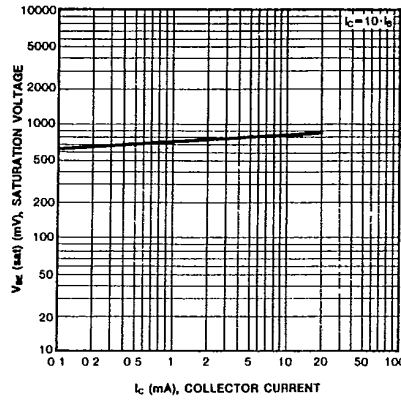
**$h_{FE}$ - $I_C$  CHARACTERISTIC**



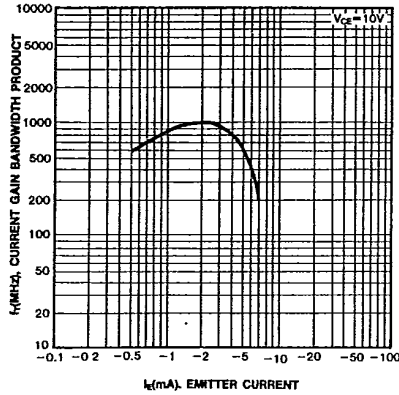
**$V_{CE(sat)}$ - $I_C$  CHARACTERISTIC**



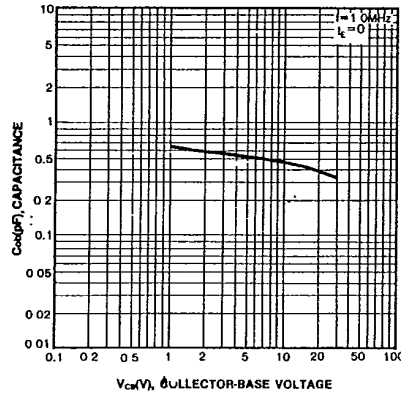
**$V_{BE(sat)}$ - $I_C$  CHARACTERISTIC**



**$f_T$ - $I_E$  CHARACTERISTIC**



**$C_{ob}$ - $V_{CB}$  CHARACTERISTIC**

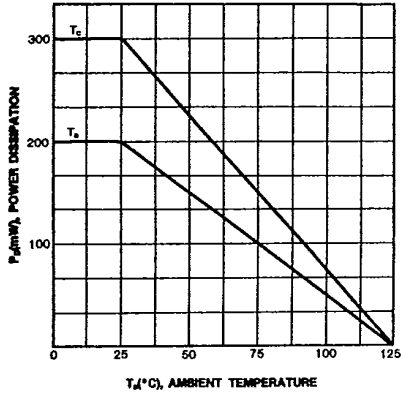


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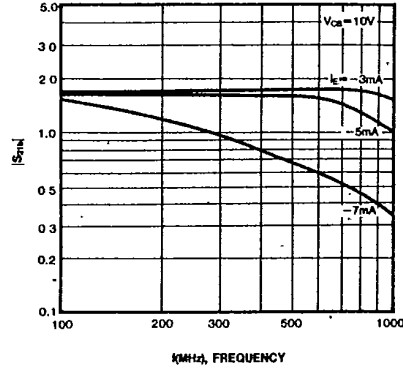
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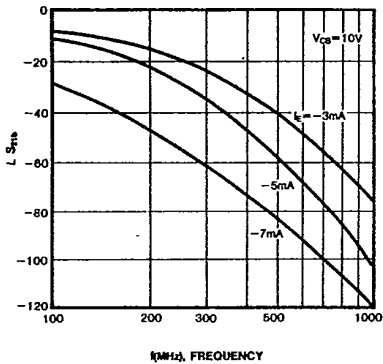
$P_D$ - $T_A$  CHARACTERISTIC



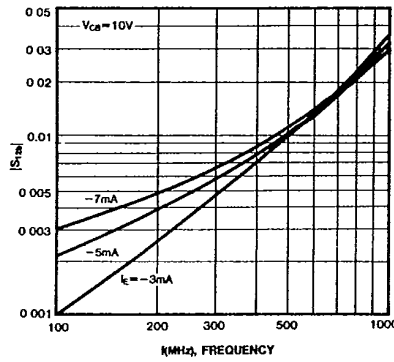
$|S_{21b}|$  -  $f$  CHARACTERISTIC



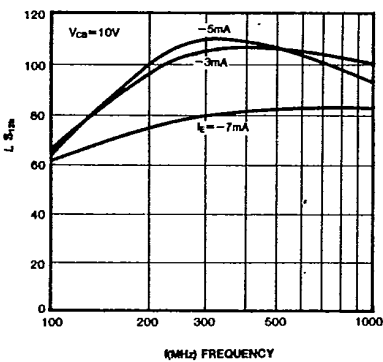
$L S_{21b}$  -  $f$  CHARACTERISTIC



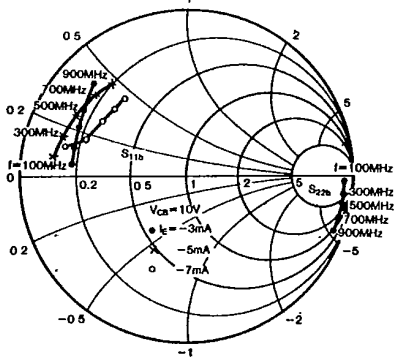
$S_{12b}$  -  $f$  CHARACTERISTIC



$L S_{12b}$  -  $f$  CHARACTERISTIC

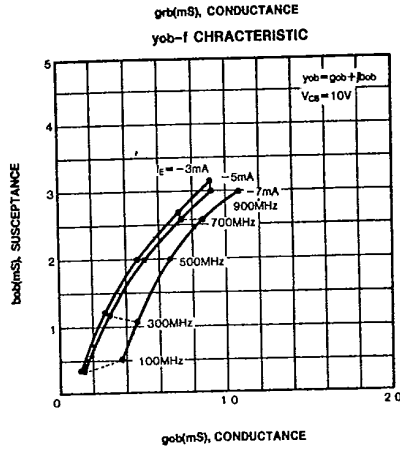
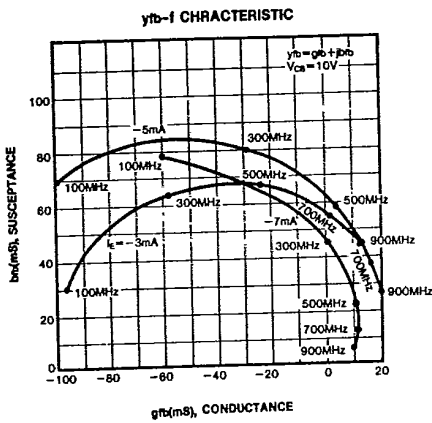
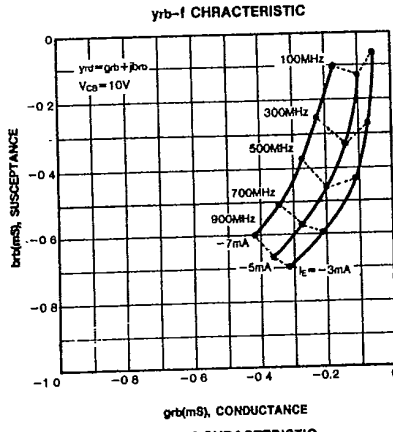
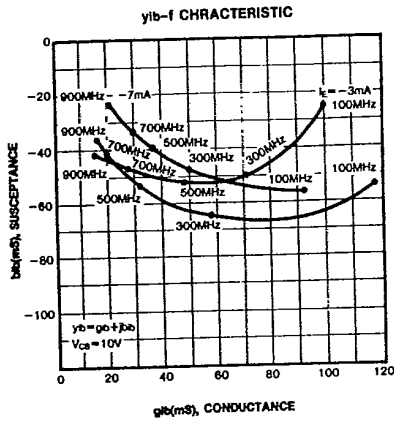


$S_{11}$ - $f$ ,  $S_{22}$ - $f$



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